BULLETIN

MADRAS DEVELOPMENT SEMINAR SERIES

VOLUME IX No. 3 MARCH 1979

PRODUCTIVITY TRENDS IN TAMIL NADU

NON - FORMAL EDUCATION FOR DEVELOPMENT

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EDITORIAL—SOME HIGHLIGHTS

I General Economic Scene

State:

Floods: The State Government may receive from the Union Government Rs. 10 crores for relief and rehabilitation of people and areas affected by 1978 November floods (see vol.IX p.1). It will be recalled that in the first week of December 140 persons died in the floods and landslips, the Nilgiris district accounting for 98. Nine other districts were similarly hit. The damage to private and public property amounted to Rs. 25 crores, in Thanjavur district alone 36,000 huts being damaged. The rains at the end of November along with a cyclonic storm seriously affected the districts of Ramanathapuram, Thanjavur, Madurai and Nilgiris again and the Union Government aid is to repair the damage caused by these two natural calamities.

Power: The power supply situation in the state in January was normal. In the Tuticorin thermal project, with the rolling of the turbine on the barring gear and the steam blowing of the boiler pressure parts at the end of December, the commissioning of the first 210 MW unit in mid February was ensured. The second 210 MW unit will be commissioned in June/July 1979 and the third unit in December 1980. Coal India has undertaken to supply 50,000 tonnes a month from the Raniganj collieries to meet the plant's annual 1.8 million tonnes requirement. An external coal handling facility costing Rs. 5 crores in the new coal jetty in the north break water of the new port will clear the coal from the ships at the rate of 2,000 tonnes an hour. The construction of the 230 KU transmission line from Tuticorin to Madras is to be completed by mid January and another line via Paramakudy, Karaikudy and Tiruvarur to Neyveli is to be taken up. The Mettur thermal station project is awaiting Union clearance, and when received, work on it will start this year. The Rs. 74 crores 400 MW Kadamparai pumped storage hydro electric project, the first underground generator installation in the state and the largest among the 3 such projects in the country will be commissioned in 1982. It uses the natural flows of Aliyar river and is designed as a pumped storage project to meet the peak demands of the state grid. The Ministers from Tamil Nadu, Kerala and Karnataka met in late January and discussed the sharing of Kerala power

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between Tamil Nadu and Karnataka in 1979, after the expiry of the present Tamil Nadu-Karnataka agreement on February 15. They will meet again on February 16 to sign the accord.

The power situation in the country presents the usual mixed picture. Power cuts continue in Maharastra, Madhya Pradesh, Karnataka, West Bengal and Assam. With the good monsoon, hydel generation improved and thermal generation touched 308 MW in the first week of January. Punjab, Haryana and Uttar Pradesh which normally experience power shortage during rabi sowing were able to meet the rabi power demand this year. As of January 1979, 1,700 MW have been added during the financial year, with the aim of reaching 2,500 to 3,000 MW for the year. But there will still be a large deficit of 1,000 MW as the target for the year is 3,800 MW. The Ministry attributes the shortfall to non-availability of equipment and labour unrest. Madhya Pradesh announces that with the commencing of the 2 units of 200 MW of the Sambalpur thermal project, its 10-20 per cent cut on industrial consumers will be lifted in June. NTPC announced that the first phase of 600 MW generating capacity with three 200 MW units of the super thermal Singrauli Project is progressing ahead of schedule and its first 200 MW unit may be commissioned in 1981. The Department has proposed to the planning Commission that phase 1 of the country's fourth super thermal project at Farakka be taken up in 1979-80 along with phase II and III and has allocated Rs. 25 crores for the first phase. On the other hand, Assam reports increasing its power cut in January from 15 to 50 per cent because of the mechanical defect of the Chandrapur plant and the depleted supply from Meghalaya. The resulting production loss for the state will be 50 per cent, with its industrial growth retarded. This also means that North Bengal which was expecting some relief from the Bongaigaon thermal plant which will start generating 120.2 MW energy in Assam will not receive the relief. Because of the increased demand from the farm sector, Gujarat, in addition to the 10 per cent cut for continuous non process industries along with staggering of holidays and recess hours has imposed a further 8 per cent cut in peak hour load on continuing process industries and has banned its use for air conditioners and neon signs. The Energy Minister announced in January that an autonomous apex body is to be set up to plan, coordinate and direct the training of personnel for the power sector at Neyveli, Durgapur, Delhi, Nagpur and a roving team of experts is to be constituted to monitor the performance of the thermal power stations, starting with Patratu, Koradi, Gora and Badarpur. The Union Government approved IOC's proposal to expand its LPG net work by 1.75 million customers in 5 years to be met by the additional gas to be generated from the refineries at Mathura (2 lakh tonnes), Koyali (1.20 lakh tonnes) and Bombay High (1.68 lakh tonnes) at a total cost of 84.3 crores, of which IOC will provide Rs. 35.15 crores and the balance will be provided by the customers.

Water and Land Reform : The construction of the Rs. 6 crores Siruveni dam from which adequate protected water supply is to be available to parched Coimbatore as from 1981 when the dam is to be completed is delayed due to labour unrest. LIC has granted Coim-

batore municipality the loan of Rs. 16 crores for the Siruveni Augmentation project and the laying of mains and the construction of overhead tanks which are in progress. From April to August 1978 no work was done on the dam by the two contractors who complained of labour unrest and so work has been entrusted to the labour unions and for the highly technical tunnel lining to a contractor from Tamil Nadu. It is hoped that the Kerala PWD will complete the project on time. The two day conference of the revenue and law ministers of the southern states in Bangalore in January on land refoms and land policies arrived at the following conclusions: a) despite divergent approach to land reform to suit different conditions in the states, the single real objective of land reform must be uniformly ensured, namely the tenant or the tiller should be real owner of the land; b) tenants and allottees of surplus lands on whom ownership rights have been conferred under the Acts should be prevented from alienating the land for 15 to 20 years through penalties for defaulters; c) there should be a time limit to speed up determination and distribution of surplus land; d) to ensure that land goes to the tiller at the earliest time, land tribunals with non officials and SC, ST and other weaker sections representatives should be set up which could also compensate for the absence of accurate and up to date records and the decision of the tribunals should be final; e) the Union government should make finance under DIR scheme to the tenants to acquire ownership rights and to allottees of surplus land for its development; f) a non-agriculturist with an income above Rs. 12,000 a year should be prevented from buying agricultural lands, and g) the payment of compensation to ex-landlords who owned lands in excess of the ceiling might not be necessary in view of the latest constitutional provision and the Supreme Court rulings in certain Kerala cases.

Farm Legislation: The State Government extended by 3 months up to April 15, 1979, the Tamil Nadu Cultivating Tenants (Protection from Eviction) Ordinance which gives protection to a tenant from eviction from his holding on the ground that he is in arrears to the landlord for the fasli year June 1976 or any previous years. A second ordinance, the Tamil Nadu Cyclone and Flood Affected Areas (temporary relief) Ordinance also extends up to April 15, 1979, the period of protection given to a cultivating tenant in the areas affected by the cyclone and flood of 1977 from eviction for non-payment of rent for the fasli year ending June 30, 1978 or any previous fasli year. The Andhra Pradesh government has also promulgated an ordinance to empower tahsildars to restore lands to protected tenants or certificate holders evicting illegal occupants and gives the collectors revision powers to enquire and ensure that no protected tenant or certificate holder had surrendered his right due to duress, fraud or coersion.

Public distribution and Coimbatore district plan: The State government has asked the Union government to leave to the states the responsibility of drawing up the list of essential commodities for distribution through the fair price shops. Its programme to operate 16,000 fair price shops by mid March will ensure that each shop covers a population of 2,752. The Union Government's scheme allows states to make suggestions for the list of essential commodities, but

in making the final decision the Union government will not be able to meet the special problems of a state. The state government has also urged a central pool for each essential commodity as in the case of wheat and rice and a union annual subsidy of Rs. 3 crores to the state to help stabilise the network of fair price shops. The execution of the Rs. 60 crore Coimbatore Integrated Urban Development project involving construction of multi storeyed commercial complexes, financing facilities for low income and poor groups and provision of water and drainage facilities for the Coimbatore metropolitan area is to start in February. The first phase costing Rs. 7.50 crores will be completed in 1981 with the building of houses for the low income groups on the Perur road, shopping complexes in four areas, godowns and lorry stand in Utkadam, remodelling the Thyagi Kumaran Markets and water for the Kurichi and Singanullur areas. The Coimbatore Local Planning Authority is in charge of the plan which may receive World Bank aid.

Madras urban development, Transport and Communications: Work on the restoration of the city roads in Madras started in January and replacement of tube lights, bulbs and other materials for repairing the monsoon damage to the lighting system is under way. The families affected by the disastrous December rains (see last issue Page 68) are being rehabilitated and their houses rebuilt, with the city limping back to normal life during the month. The first phase of the work on the inner ring road connecting the Guindy Industrial Estate and Padi at a cost of Rs. 2.45 crores has started and will be completed by 1981, involving the laying of the inner ring road for a length of 11.70 Km and a bridge across the Cooum on the west Annanagar at the cost of Rs. 48 lakhs. The road laying is half completed at end January. The road at present provides a 2 lane carriageway with the cycle tracks on the right sides and the pedestrian pavement to be constructed later on the left. Ultimately it is to be a 6 lane road. When the first phase is completed, the inner ring road will connect Ashok Nagar, Vadapalani, Koyambedu and Anna Nagar enroute, benefitting 30,000 vehicles. The amount spent on the road will be realised within 2 years by the levies on those benefitting from it. Also an over bridge at Tondiarpet railway station at a cost of Rs. 96 lakhs and a vehicular sub-way near the Nungambakkam railway station at a cost of Rs. 70 lakhs are to be constructed. On the communications side, the Post Master General announced that an outlay of Rs. 1 crore has been made for the construction of departmental buildings for post offices in Tamil Nadu Circle. This involves 17 buildings, including 10 head post offices. This year new postal buildings are to go up in Meenambakkam, Mylapore, St. Thomas Mount, Kumbakonam, Virudhunagar, Ranipet, Thekkalai, Aravangadu, and Bodinayaganur. The circle is leading the country in providing postal daily service for every village in the state. 105 new rural post offices, 50 in hilly and 50 in tribal areas are to be opened this year. Counter facility is to be extended to 1,500 villages and Erode and Tirunelveli will open night post offices.

National :

Sixth Plan: The major event in December in regard to the VI plan was meeting of the NDC sub committee and the meeting of the full committee on Centre-State Plan financial relations. The result of the meetings was a) confirmation of the VI Plan overall Plan outlay of Rs. 69,380 crores, including the outlay for the central plan of Rs. 28,000 crores; b) reduction of the outlay of centrally sponsored schemes from Rs. 6,000 crores to Rs. 3,350 crores, so that Rs. 2,650 crores of Central schemes are transferred to the States, with the centre dropping its interest in Rs. 1,000 crores worth of schemes, and with regard to the other Rs. 1,650 crores of schemes, the centre is to give matching grants. The addition of Rs. 2,650 crores to the states is in addition to the Rs. 10,350 crores Central assistance already provided in the Draft plan. Actually what is left of their Rs. 10,300 crores for the next 4 years for distribution according to the Gadgil formula is Rs. 4,200 crores, as Rs. 2,400 crores has already been distributed in the current year, Rs. 1,800 crores have been earmarked for special category states, Rs. 800 crores for hill and tribal areas, Rs. 600 crores for special problems of the states and Rs. 500 crores for externally aided projects. Similarly of the Rs. 2,650 crores of centrally sponsored schemes now transferred to the states, Rs. 650 crores would have been spent during the current year, leaving Rs. 2,000 crores to be distributed among the states; c) the Rs. 3,350 crores of the centrally sponsored schemes which have been retained are i) schemes like family planning, eradication of communicable diseases and erection of inter state power transmission lines which would get 100 per cent central assistance and ii) others like D.I.Cs and area planning which would receive 50 per cent assistance; d) lack of agreement in the committee on the formula to be followed in distribution of the additional Rs. 2,650 crores among the states, some states with larger revenue surpluses wanted the other states to be given Rs. 800 crores and the rest to them, while the 8 poor states wanted the whole sum to be distributed among them. This issue of the formula for the distribution of the additional sum is now going to the full meeting of NDC and to that extent the finalisation of the VI plan and that of the states', plans will be delayed. To this should be added the rather large shortfalls in the production targets of key sectors, which means the Plan figures have to be reworked, involving further delays in the finalisation of the VI plan which has been envisaged for March of this year. Now the Planning Commission and the Finance ministry are setting forth in the budget the aggregate Plan funds to be available in 1979-80, leaving the detailed sectoral outlays to be worked out later. The 1978-79 Plan document, it is hoped, will be presented to Parliament, unlike the 1977-78 Plan which was never officially approved by Parliament. Similarly the 1979-80 Plan should be presented to the monsoon session of the Parliament.

Prices and Anti-Inflation: The index numbers of wholesale prices for December 1978 was about the same as that for November (see last issue page 70) at 184.8 on December 30, 1978 and marginally higher at 185 on January 6, 1979. The index of food articles recorded a rise of 0.6 per cent owing to an increase in the prices of bajra, urad,

fruits and vegetables. Among non food articles castor seed, raw hides, raw wool, raw silk and gingelly seed and tanning materials rose between 2-4 per cent, while lac, rubber, cotton seed and soyabeans fell between 2-6 per cent. Prices of minerals and fuel, power and light remained stationary. Among manufactured products, prices of cotton seed, oil, kandasari and groundnut oil rose by 2-4 per cent, while those of food products and gingelly by 0.6 to 2 per cent. Cotton yarn fell by 0-1 per cent, leather rose by 1 to 2 per cent while all other groups remained stable. In January the go-slow and threatened strike of the bank employees and the non functioning of the clearing houses for cheques led to the unloading of stocks on a cash basis, which brought down the prices of sugar, oils, food grains and oil seeds in the cities. On a long term basis, for stabilisation and lowering of prices of essential commodities, the Union government announced in January a production cum distribution scheme which will go into effect from July 1 and cover initially wheat, rice and coarse grains, processed edible oils, common clothing, kerosene and soft coke. More commodities and manufactured articles will be added to the list from time to time on the recommendation of the committee set up for this purpose by the Union government. The scheme involves production, procurement, transport, storage and distribution calling for the active co-operation of state governments, which, at the January conference, pledged their full support. One shop is to be set up for a population of 2,000 (for hilly areas 1,000 population) so that a total of 3.5 to 3.75 lakh fair shops would be established. While private fair shops will continue, preference will be given to co-operatives. The National Co-operative Union of India has undertaken to distribute essential commodities through its 60,000 units and another 20,000 units could be added by it, if it is made the primary agent for distribution. Another government action to control prices is the January amendment to the Companies Appointment of Sole Agents Rule 1975 to regulate the behaviour of prices of products marketed by the private corporate sector under which the 14 additional queries which have to be answered will ensure that the private companies and their sole selling agents will be subject to checks by the government in the marketing of products and their prices. It will also check unfair trade practices. Similarly on the recommendation of the Law Commission a new law is being drafted by the Government to regulate benami transactions. The Reserve Bank of India has issued instructions in January to banks to prepare annual block level credit plans for 1980-83 afresh superceding the current plans which run up to 1980-81, in order both to synchronise such plans with the Government's five year Plan and also on the basis of the block wise, sector wise and scheme wise credit details to monitor the plans more effectively. On the other hand the Reserve Bank of India has instructed the banks to operate the differential rate of interest scheme that not less than two thirds of their advances are routed through rural and semi urban branches so that the weaker sections in the rural areas secure the maximum benefit. On the inflation side, the Reserve Bank of India's September Bulletin reports that because of inadequate financial discipline and the low rate in raising their own resources, the closing deficits of 12 stages will be Rs. 555 crores sanctioned by the

Union government as special loan to them plus an additional uncovered deficit of Rs. 40 crores for 1978-79. On the one hand the larger outlays on agriculture, power and irrigation are not generating a return flow of resources from them. On the other, the overdraft accommodation which has increased from Rs. 122 crores at the end of January 1978 to Rs. 505 crores on June 1979, the Reserve Bank of India points out, has to be viewed as a draft on the national resources by the states beyond that agreed to by the Union government and the Planning Commission, a draft which is not reckoned in the monetary and credit arrangements for the year with consequences on inflation, over—all deficit financing and distributive justice among the states. The indebtedness of the states to the Union has mounted from Rs. 448 crores in March 1952 to Rs. 16,283 crores in March 1978, a rise of 34 times, which places the States in a position where to repay the debt they have to incur additional debt. This also has relevance to the work and recommendations to the Finance Commissions. On the price front, the government announced in January an increase in the support price of gram from Rs. 125 to Rs. 140 per quintal for the marketing season 1979-80, with a view to providing a price incentive to increase pulses production. It also for the same reason raised the support price for mustard by Rs. 20 to Rs. 245 per quintal for the 1978-79 season. This is necessary, but of itself is not sufficient to increase the production of pulses and gram and will raise the price to the consumer.

Economy: CSO's quick estimates show that at 1970-71 prices in the country net National income in 1971-78 was Rs. 43,395 crores compared to Rs. 40,395 crores in 1976-77 being an increase of 7.4 per cent compared to the 1.4 per cent increase in 1976-77. The per capita national income increased from Rs. 656 in 1976-77 to Rs. 690 in 1977-78 being an increase of 5.2 per cent allowing for the population increase of 2 1 per cent, compared to the 1976-77 record of a fall of 0.6 per cent. At current prices the national income shows a rise of 9.9 per cent (Rs. 73,157 crores in 1977-78 compared to Rs. 66,561 crores in 1976-77) and per capita income of 7.6 per cent (from Rs. 1,081 to Rs. 1,163). The increased national income was due to the large increase in food grains production from 111.2 million tonnes in 1976-77 to 125.6 million tonnes in 1977-78, contributing an increase of Rs. 11.2 per cent from the agricultural sector. Other sectors which recorded increases are fishing (5.8 per cent) construction (8.0 per cent), banking and insurance (11.1 per cent) and public administration (5.7 per cent). Private consumption is estimated as Rs. 59,072 crores, being 68 per cent of GNP at current prices compared to Rs. 53,587 crores in 1976-77. The rate of net capital formation declined from 17.2 per cent in 1976-77 to 16.6 per cent due to fall in inventories, the total fixed capital formation in both public and private sectors showing substantial increases. The public sector capital formation has been mainly in expenditures on irrigation works and capita formation by non departmental enterprises, while stocks registered a fall due to fall in food, steel and fertiliser inventories. Similar to the past 2 years, the rate of savings in 1977-78 continued to remain higher than the rate of capital formation mainly due to the high level of remittance from aborad. Domestic

savings amounted to Rs. 14,643 crores which was 17.8 per cent of NDP at current prices, the lower rate being due to the fall in financial saving of the *household* sector and public sector non departmental undertakings. There was a sustained fall in the savings of non departmental units - coal, steel and copper. On the other hand, contrary to the trend of the past 2 years, the private corporate sector registered a marginal increase in its savings. In summary, C. S. O. reports the average Indian spent Rs. 100 a month (per capita annual income at current prices is Rs. 1,163/=) spent Rs. 80 on consumption (annual per capita final consumption is Rs. 939), 43 per cent of income is from agriculture and other primary activities, two thirds of the consumption expenditure is on food items (Rs. 50 on food, Rs. 6.50 on clothing and foot wear, Rs. 3 each on fuel, rent and household equipment and Rs. 14 on other items).

Industry: In contrast to the industrial growth rates for the first 6 months April - September 1978-79 referred to in the last issue (see page 72) at 8.3 per cent (ministry of industry) and 9.2 per cent (ministry of finance), CSO reports that the rate was 6.9 per cent against 4.4 per cent for the corresponding 6 months in 1977-78. The first 9 months in 1978 (calender year) shows a growth rate of 5.3 per cent, compared, to 2.2 per cent in the first nine months of 1977, at which rate the 1978 growth rate is likely to be a little above 6.2 per cent, much less than the targetted 10 per cent. The ministry of industry again estimates that the rate between April - November 1978-79 is 8 3 per cent and hopes to improve it in the remaining four months. The difference between CSO estimates for 6 months and that of the ministry for 8 months means that the growth between October - March 1978-79 have to be between 7.5 per cent to 8.5 per cent if the target is to be attained. The available data does not support this estimate. Jute manufacture declined by 2.3 per cent between January - June 1978, railway wagons by 11.5 per cent, finished steel by 8.4 per cent, copper by 21.3 per cent, fertilisers by 2.9 per cent and machine tools by 2.4 per cent, against increase in sugar by 5.7 per cent, cotton yarn by 7.4 per cent, cement 23 per cent, coal 2.1 per cent, caustic soda 5.9 per cent, power transformers 3.3 per cent, bicycles 14.8 per cent, radio receivers 15.5 per cent. Using the 4 point Reserve Bank of India classification, capital goods industries declined by 0.7 per cent, consumer goods industries increased by 12.2 per cent intermediates by 3.8 per cent and basic industries by 3.6 per cent. Thus industrial output has increased but will have to pick up more particularly in the slack sectors to attain the year's target. In this connection the monitoring group set up by the Union cabinet to indentify bottlenecks in key sectors and take steps to overcome them has been meeting thrice a week, and has taken decision to overcome also the effects of the devastating floods (see Vol. VIII, pp 511, 572 & 634) with the result there has been marked improvement in output, particularly in the heavy industry sector - steel, coal, cement, fertiliser, power and commercial vehicles.

Public Sector performance: The 16 Public sector undertakings in the heavy industry sector report production of Rs. 688.9 crores for the period April to December 1978-79, with an anticipated total of Rs. 1,060 crores for the year,

compared to 1977-78 total Rs. 878.02 crores. BHEL's record was Rs. 401.15 crores, EPI Rs. 69.21 crores, with HEC and MAMC alone incurring losses at Rs. 30 and 23 crores. The Department reports that it is developing the systems capacity of each undertaking for specific areas of equipment production. Jessop is to produce entire paper and pulp plants, Triveni, Richardson & Cruddas, and Tungabhadra steel high transmission lines, BHEL high technology areas. Also there has developed a systematic monitoring of the production performance of each unit with easy availability of components to ensure production capacity. The heavy units are promoting ancillarisation, the number increasing from 290 to 332 and their production Rs. 14.50 crores along with the 500 small industries registered with the heavy units supplying steel castings, malleable and iron castings, steel forgings, sheet metal work and mechanised components. With improved capacity use in the heavy units, ancillarisation and the further growth of dependent small industries will be further accelerated.

National Production Front:

Steel: The integrated steel plants, despite reduced oven pushings due to low availability of coking oven gas, increased their production in December to 5.51 lakh tonnes against 4.76 lakh tonnes in September and 5.1 lakh tonnes in October. Saleable steel production amounted to 5.72 lakh tonnes in December against 5.43 lakh tonnes in November. In the first three weeks of January, production of ingots and saleable steel is continuing to increase so that for 1978-79 steel output is forecast at 71.5 lakh tonnes against 66 lakh tonnes in 1977-78. During the year, the production loss has been 3.2 lakh tonnes due to power shortage, shortage of coking coal and floods in Durgapur. This led to reduced production of ingot steel for the calendar year 1978 at 8,096,000 tonnes against 8,576,000 tonnes in 1977 and 6,583,000 tonnes of saleable steel in 1978 compared to 7,000,000 tonnes in 1977. However the December pickup was highest in Bokaro in ingot, rolling, coils and in despatching of saleable steel, Bhilai in wire rods, Rourkela in electrical steel sheet and in Durgapur in saleable steel. Since September, the 6 integrated plants record an upward production trend and if coal and coke supply had been normal, would have been higher. Coking coal supply which continued to be poor, improved marginally at 1,70,000 tonnes during December and coal supply improved to 40,000 tonnes per day. With increased steel production and imports of 5.5 lakh tonnes, the market has steadied and there has been a gradual build up of buffer stock, easing the position with regard to critical items. TISCO reports that it has reduced its modernisation programmes from Rs. 440 crores to Rs. 118 crores in order to reduce its reliance on public financial institutions loans which include the convertibility clause, and is using its own internally generated funds at the rate of Rs. 25 crores annually for the purpose. Its oxygen steel making mill will involve an investment of Rs. 86 crores, the modification of primary mills Rs. 10 crores and modernisation of blast furnance Rs. 4 crores. SAIL also reports that its scheme for distribution of some selected steel items to rural areas is being finalised involving making available to 1,500 registered traders light and medium structurals, plain bars and wire rods and GC sheets at stock yard prices provided they are sold in rural areas only. A

similar scheme for urban areas of pig iron, CR sheets, plates and HR sheets is being readied to counter their sale at a premium in the market.

Crude : The total imports of crude for the calendar year 1979 is projected at 16.75 million tonnes, compared to the import of 14.5 million tonnes in 1978. In addition to the increased import of 4 million tonnes from Iraq and 5 lakh tonnes from UAE, the government has approached Saudi Arabia to increase its supply from 1.1 million tonnes to 3 million tonnes to fill the gap left by the practical stoppage of Iranian crude. This would not only provide a steady supply to the refineries but also save over Rs. 1 crore in freight, as otherwise India will have to import crude from the more distant oil fields in Indonesia and Nigeria, which also has a higher cost price. Saudi Arabia's initial response has been favourable. Kuwait which was approached for an additional 2 million tonnes has not been able to accept the request, as it has to supply Iran with crude for its domestic needs. On the domestic production front ONGC has under consideration the purchase of another jack up drill ship like Sagar Samrat which is operating in Bombay High in order to pursue the oil structures off the Andhra coast identified by the West German survey vessel Prakia. These structures are 180 metres down, cempared to the 75 metres of Bombay High, and would need the use of depth techniques. The NIO vessel Anveshat is working on the West coast off Marin, where the gas structure was recently detected, and will also be engaged in exploratory drilling in the west cost oil structures. On the price front, the government has under study, the question of the extent to which the OPEC price rise should be absorbed by the government (it has Rs. 225 crores in the crude oil price equalisation fund and another Rs. 50 crores in surplus funds in the oil industry development board and the freight shipment pool account) and how much of it has to be passed on to the consumer. The phased OPEC price increase will mean an additional import bill of Rs. 170 crores for 1979, and rise in domestic prices of petroleum products will not only be on top of the already high prices and may act as a production constraint, and also lead to adulteration. Any rise should be of the order of 5 or 6 paise per litre.

Coal : Coal production in 1978-79 is estimated to be at 106.38 million tonnes against the demand of 109.22 million tonnes, and for 1979–80 the target has been established at 118 million tonnes against the projected demand of 119 million tonnes. From 1979–80 for the first time fertiliser plants will be consuming coal and their demand for the year is placed at 2.5 million tonnes. SAIL will need 15.5 million tonnes, 60 per cent of which will be prime coking coal. The power sector will need 36 million tonnes, railways 12.80 million tonnes, fertiliser as noted earlier 2.5 million tonnes, textiles 2.70 million tonnes and 23.50 million tonnes for brick kilns and others. The pit head stock which was 12 million tonnes in April 1978 is likely to be 9 million tonnes by March 1979. The Union Cabinet sub-committee has still under consideration the question of price rise for coal, Rs. 10 per tonne which would involve an additional outgo of Rs. 12 crores for railways and Rs. 30 crores for power. Meanwhile the coal industry is suffering heavy losses at an increasing rate. There is inefficency in the sector, but its correction involves important policy and organisational questions such as the surplus

labour issue and its replacement. Some relief has to be given to the industry either through a price rise or non plan budgetary support in the form of interest free loans and other measures. The department has given non plan budgetary help to the coal companies for Rs. 175 crores this year to enable them to meet their loan and interest dues. Other problems faced by the sector are the possibility of a moratorium for five years on loan repayments and the delays in the payments by major consumers like the state electricity boards. The immediate issue on which the government should take a decision is the price rise. The continuing battle between the railways and the department on coal wagons movement continues and is another almost perennial issue which must be resolved. The North, the West (West Bengal) and Gujarat report improved coal availabilities: there are still problems in the South for the cement and textile industry, to a lesser extent with regard to thermal plants. A coordinated action by the two ministries is urgently needed.

Copper and Aluminium: Due to shortage in supply and increased stock piling by the US, international copper prices have risen sharply by over 5 per cent in the quarter of 1978, pushing up the country's import bill. In the manufacture of cables and wires, it is now necessary to substitute aluminium for copper which in terms of prices will make the products 70 per cent cheaper. Unlike copper, the country has large deposits of bauxite (see vol VIII pp 458 & 642) and it should be possible to increase Aluminium production quickly. The demand for aluminium is estimated at 2,75,000 tonnes in 1978-79 and at 4,05,000 tonnes in 1983-84, which with the increased power generation programme will reach 6,50,000 tonnes in 1988-89. The present installed capacity of 3,21,000 tonnes should be expanded and its fuller utilisation assured. To increase capacity both adding smelters to existing aluminium plants and setting up new plants are needed, on the basis of which self sufficiency in aluminium can be attained, while the limited copper deposits in the country make reliance on copper imports whose costs will continue to increase because of the international market conditions, referred to earlier, inevitable.

Cement: Cement production has been slowly increasing from 17.29 million tonnes in 1975-76 to 18.85 million tonnes in 1976-77, 19.38 million tonnes in 1977-78 and 19.6 million tonnes for the calendar year 1978, during which time the plants were working at 89 per cent capacity. To meet the gap between supply and demand of 2 million tonnes, 1.3 million tonnes of cement were imported during the year. For the year ending March 1979, imports will be 1.76 million tonnes. Cement will be available through the public distribution system in 18 states and union territories to prevent black marketing and unfair trade practices. In January, the Union government announced a number of incentives to promote mini cement plants – 5 per cent rebate in excise for 5 years, exemption from 1967 Cement Control Order, freedom to entrepreneur to choose his technology provided the capacity is limited to 200 tonnes per day or 66,000 tonnes per annum. In addition to units in the private and public sector, the Cement Corporation of India is setting up mini-plants. For five years the price will be the same as that for new large plants at Rs. 296 per tonne. They will bear the distribution cost, will not be

required to adjust their freight with the cement regulation account, will receive additional excise relief or cash subsidy if located in hilly areas, will be eligible for all other incentives under the income tax act and large houses and foreign majority companies will not be allowed to set up mini-cement plants. On a long term basis, to step up the investment level in the cement industry, the ministry's plans are to add 4 million tonnes to the present installed capacity by 1980 in the large scale sector and by the end of the Sixth Plan capacity will be raised to increase cement supply to 40 million tonnes against the 20 million tonnes availability in 1978. The level of imports during this period will be maintained at 1.2 million tonnes per annum to meet marginal supply shortfalls. The ministry is also working on fiscal incentives to large scale plants to increase investment and production.

Paper: The Union government announced in January total excise exemption for writing and printing paper when produced with at least 75 per cent bagasse. Priority is to be given to sugar mills who set up paper mills to use bagasse and private entrepreneurs including large houses are allowed to enter the area. The excise relief which is to be available for 3 years is aimed at increasing rapidly paper production which is in short supply. The sugar mills will now be switching over to coal boilers and this will increase their capital cost by 10 per cent and the additional cost to the mills in transporting, storing and financing coal is to be included in the cost of bagasse supplied to the paper mill. This complete excise exemption (which for 75,000-80,000 tonnes capacity is Rs. 4,000/= per tonne) will make new paper mills production more competitive.

Sugar and Textiles: The Union government announced in January that it has decided to create a buffer stock of sugar of 5 lakh tonnes to provide relief to the sugar industry, giving liquidity to its financial position so that it can better discharge its obligations. Also the entire quota of sugar earmarked for export by India by the International Council is to be exported. Also the government abolished in January the excise duty on Khandasari till September 30 to increase the demand for cane and assure the farmers a good price. Sugar production in the current year is expected to reach the record 1977-78 level. The production of 7,86,000 tonnes till December 1978 should be compared to 6,63,000 tonnes in the corresponding period of 1977. The industry has formulated a scheme of monthly releases, under which 4.5 lakh tonnes of sugar will be released to the market every month, so that the factories can realise Rs. 215-Rs. 235 per quintal. To help increase the offtake, the agricultural ministry is framing a scheme to make sugar available to remote regions at fair prices and also make it available through the public distribution system, referred to earlier. Sugarcane arrears due to farmers have fallen from Rs. 57 crores to Rs. 23 crores, the large dues being from the Uttar Pradesh and Bihar mills. Having given notices to 160 mills under the Take Over Act, the Union government as at the end of December took over seven factories to ensure timely commencement of crushing. The carry over stock of 34 lakh tonnes and the current expected production of 65 lakh tonnes means a total availability of 99 lakh tonnes, of which 56 lakh tonnes will be consumed within the

country, 8.5 lakh tonnes exported between October 1978 to September 1979, leaving a carry-over stock at the end of the current season of 34 tonnes. There is in the long run need to diversify the industry, such as the production of alchohol chemicals, paper and card-board with the use of bagasse, etc. On the textile front, cotton textile production attained in 1978 a record-yarn 1,228 million Kg compared to 1,147 million Kg in 1977, cloth 4,212 million metres compared to 4,120 in 1977. This was not due to increase in capacity which has been frozen but through fuller use of existing capacity. The number of closed mills declined from 35 in 1977 to 22 in 1978, and a number of sick mills including the NTC ones operated nearer their rated capacity. The increased production is attributed to improved supply of basic inputs including indigenous cotton and a two fold increase of man-made fibre, better power supply and revived demand for cloth. Prospects for 1979 are equally good.

Floods and Fertilisers: The Union government announced that it is considering a comprehensive Action Plan for flood control with an investment of Rs. 1,700 crores over the next 5 to 7 years on the recommendations of the agricultural ministry's working group. These measures include soil conservation and afforestation in the upper catchment areas of the major rivers and engineering works, reservoirs and embankments at various points, down stream of the rivers. On the fertiliser front, the total production of nitrogen fertiliser in the nine months—April to December 1978-79 records an increase of 4 per cent production over the corresponding period of 1977-78, phosphates production growing at 15.5 per cent. In December capacity use was 8.2 per cent and all 32 nitrogen producing units were operating. Against the target of 22.5 lakh tonnes, nitrogen production is likely to be 22 lakh tonnes, phosphates production which was 5.80 lakh tonnes till the end of December will probably exceed its target of 7.5 lakh tonnes. On the other hand at mid January, fertiliser units report a serious crisis due to acute shortage of sulphur. During the balance of January and February and March, their production reaches the highest point to meet the full demand for phosphate for the coming kharif sowing. The sulphur shortage is due to Iran being unable to meet its export obligations, Iran being the major supplier of the 10 lakh tonnes import into the country. MMTC has to release existing imports fast and contract for further imports even at higher world prices to save the fertiliser industry.

Agricultural Production: The country's estimated food grains production for 1978-79 is placed at 126.50 million tonnes, which is million tonnes higher than the 125.60 million tonnes of the previous record year. The delayed winter rains have provided the basis for the optimistic forecast. December was a dry month and caused anxiety, but the January rains promise not only to make up for last year's shortfall but even surpass last year's record—in Punjab, Haryana and U. P. Fertiliser use will reach its optimum which the winter rains make possible in these large wheat producing states with HYV from the hybrid varieties in use. The forecast is for 130 million tonnes from which 3.5 million tonnes will have to be deducted because of flood damage. There have been constraints—the Seeds Corporation could not meet the farmers' demands from these

states, the fertiliser demand could not be fully met and there was the diesel shortage. The public distribution system has become active which will have its effect on the governments buffer, and the private trade which has been given a free hand and which has been slack in view of the bumper harvest is expected to become active again. Bihar's good rabi campaign is expected to make up for the flood losses and make possible the attainment of its target of 110 lakh tonnes, as against last year's 102 lakh tonnes. 1.5 lakh quintals of seeds have been distributed against last year's 52,000 quintals, along with 3,000 quintals of improved maize seed and 2,000 quintals of improved gram seed. A total of Rs. 5.12 crores–Rs. 1 crore for purchase of seeds, Rs. 3.90 crores for purchase of fertilisers and 22.50 lakhs for insecticides—have been given to the farmers by the Union government *through the State Government. In* U. P. the area under the wheat crop is estimated at 67 lakh acres, against last year's 63 lakh acres. The winter rains have benefitted the arhar and gram crops which are grown in the dry areas. Flood damage is put at 5–8 per cent, while the paddy crop grown over 50 lakh acres has actually benefitted and is expected to be 55 lakh tonnes. As at early January, rice procurement has been 33 lakh tonnes against last year's 25 lakh tonnes at that time, recording an increase of 33 per cent. In Punjab 42 lakh tonnes arrived in the mandis in 20 days, the FCI buying 16 lakh tonnes and the rest being bought by the millers. FCI reports that the foodgrain offtake has increased due in part to the flood relief measures and the food for work programmes. Also over a million tonnes of foodgrains have been exported. Hence the government stocks in early January were 16.5 million tonnes, compared to 1978 January of 18 million tonnes. Wheat distribution has gone up, that of rice has declined. Because of the easy availability of rice in the market, against the normal outgo of 4 million tonnes through the public distribution system, this year's distribution of rice is forecast at 28 lakh tonnes. Out of the total stock of 16.5 million tonnes, rice is 7 million tonnes and wheat 9.5 million tonnes. The Union government has permitted the southern states—Tamil Nadu and Andhra Pradesh to export rice because of the comfortable production. FCI's present storage capacity of 21.3 million tonnes comprises 14.43 million tonnes covered and the rest open. By 1981–82 with World Bank help, FCI will construct 3.6 million tonnes of additional storage capacity and liquidate CAP storage. The Union *government is proceeding ahead with* its successful programme to increase the production of oil seeds and pulses, following the increase of 5,00,000 tonnes of pulses and 1.1 million tonnes of oil seeds last year, including the doubling of the soyabean output. The government points out that increase on irrigation, bringing an additional 2.6 million hectares last year, was a world record, which should help attaining this year's target of 3.4 million hectares. FAO signed an agreement with the government in January to provide $ 1.5 million of vegetable seeds and seedlings to farmers in the flood hit areas of U.P., Bihar and West Bengal covering 5,000 hectares. FAO will procure the seeds from the National Seeds Corporation and some seeds under the scheme have already been sent to the States concerned.

Exports : The Country's exports for the 8 months—April-November 1978-79 were provisionally estimated at Rs. 3,391.77 crores compared to Rs. 3,472.41 crores in the first eight months of 1977-78, a decline by 2.1 per cent. (The previous year's final export figure for the 8 months period was Rs. 3,535.84 crores, which means the decline this year is 4.1 per cent). On the other hand imports during April-November 1978-79 were provisionally estimated at Rs. 4,121 crores which compared to the 1977-78 eight months imports of Rs. 3,480.17 crores, involved an increase of 27.2 per cent. (Again the final import figures for this period in 1977-78 was Rs. 3,864 crores which means an increase this year of 6.7 per cent in imports). As a result, the deficit in foreign trade for April—November 1978-79 is Rs. 729 crores and at the end of the year could reach Rs. 1,700 crores, if there is no improvement in exports in the remaining four months. The inward remittance have not so far shown any decline and crossed the Rs. 5,000 crores figure on December 31, 1978. The wide trade gap is attributed by the commerce ministry to a) The Union government decision to use the growing foreign exchange reserves to prevent the inflationary pressure they might otherwise exert b) the encouragement to industries to modernise their 12-15 year old plants and employment by importing certain types of industrial machinery and spares c) the government's decision to import plant and equipment for thermal plants and chemical units and coal for steel plants d) the purchase from abroad of equipment for modernisation of handling facilities in the major ports as well as the purchase of commercial vehicles, and e) the government's decision to import large quantities of consumer foods like edible oils which were in short supply. Exports in November 1978 were Rs. 293.79 crores compared to Rs. 327.59 crores in November, 1977, which was a decline of 8.7 per cent. This reverses the earlier trend of rising exports, due to the port-strike in November (in October there was a 5.2 per cent increase in exports compared to October 1977). On the assumption that one third of the daily export of Rs. 11 crores go by air or land, the 10 day port strike caused a loss of Rs. 70 crores at least. Imports in November were Rs. 409.12 crores compared to Rs. 284.95 crores in 1977 November—an increase of 43.8 per cent. A number of decisions and developments for the expansion of exports in January are to be noted. In view of the well expanded status of garment exports to quota countries, cash aid for their export was withdrawn, while the rate of cash aid on cotton fabrics exports was raised for a 3 year period from 7.5 to 10 per cent to increase their exports, which declined in 1978. Also cotton yarns of all types and counts of 60s and above and tyre cord yarn can be exported in 1979 under OGL to all countries within a ceiling of 25 million Kg. The government also announced in January the textile exports policy falling under 106 categories to the US and 114 categories to the EEC countries, with strict penalties to exporters who fail to use the allotted quota, as a means of ensuring that the increased cash aid of 10 per cent referred to above results in increased exports by the mills. To further boost exports towards the VI Plan target of Rs. 4,800 crores, the union commerce ministry has proposed involving the states fully in the export drive through a) identifying exportable articles and solving any obstacles in their exports, b) setting up apex marketing organisation for exports

particularly for small scale and cottage industry products, c) providing guidelines to the states for providing financial aid to exporting units through financial institutions, d) improving indirect taxation facilities to exporting units, e) providing the exporting units with their needed inputs, such as raw materials and cheaper rates and finding them places in the industrial estates, and improving power supply to them, and f) the states entering themselves the export market. This 6 point strategy ratification and the recognition of the states' export houses was the decision of the main conference of Chief Ministers of States held in Delhi on January 5. The Government has also decided to regulate through the State Trading Corporation groundnut exports, while the actual exports will be by extraction and cooperative units. Silver exports have started and by early January amounted Rs.85 crores. It also announced permission to export certain wheat products—maida, rava, suji, atta and wheat bran within certain ceilings, as well as mulberry silk waste and live buffalloes. Exports of marine products in the first 8 months of the current financial year, April – November 1978–79 reached a record Rs. 143.75 crores (47,019 tonnes) compared to the Rs. 118.29 crores (41,074 tonnes) during the first 8 months of 1977–78, with a good chance of surpassing the year's target of Rs. 200 crores, and France and Belgium opening up as potential good markets. On the other hand, the decline in exports included steel from 8,77,200 tonnes in April – December 1977–78 to 4,24,000 tonnes in the same 9 months of 1978–79, and pig-iron from 6,19,400 tonnes to 1,90,200 tonnes. Steel imports during this period were 5,36,000 tonnes valued at Rs. 184 crores compared to 2,33,375 tonnes valued at Rs. 80 crores in April–December 1977. Steel exports in December 1978 were 60,500 tonnes and nil for pig iron exports. Black pepper exports declined to 180 tonnes in November 1978 (against 785 tonnes in November 1977) and dry ginger exports declined from 252 tonnes in November 1977 to 179 tonnes in November 1978. The Government announced a ban on synthetic fibre imports from March 1979 and disallowed import of Egyptian yarn to encourage use of seven varieties. It increased from January 3 the export duty on Bengali deshi variety of raw cotton from Rs. 700 to Rs. 2,500 a tonne to share in the high profits of the export of 50,000 bales of Deshi cotton which had been permitted. India's exports to West Germany fell by 6.8 per cent for the first 9 months April–December 1978–79, particularly in garments and cotton ready made by 17.9 per cent. The country is negotiating long term agreements for iron ore exports with Japan, Abu Dhabi and Roumania. India and GDR signed an agreement in January to expand and diversify their trade, and India and Canada set up a joint commission to help increase the trade between the two countries.

Aid: India and the World Bank signed an agreement in January for an IDA credit of $ 200 million and a World Bank loan of $ 50 million to help finance the construction of the first 3 generators with a total capacity of 600 MW at Ramagundam as part of the $ 1,300 million plan for a 2,100 MW power station. India and UK signed an agreement also in January under which a) UK aid will be increased by Rs. 239 crores in addition to the Rs. 239.25 crores already pledged and b) Rs. 940 crores due to the UK on part loan will be used to pay for local costs of projects.

UK is the largest aid provider to the country. The government also announced that it will release the balance of $ 400 million in Indian currency to the Kudremukh project as there is delay in Iran's payment, the latter having already paid $ 270 million for $ 630 million iron ore project.

International:

Bangladesh: India and Bangladesh signed a trade agreement at the end of December 1978 under which India will import newsprint, timber, naphtha and molasses from Bangladesh in 1979. Also India will provide special facility to Bangladesh to export jamdani sarees to India. Bangladesh was also invited to expand its exports to India under the latter's liberalised import policy. Bangladesh will set up a focal point to monitor and co-ordinate trade relations between the two countries. Also coal exports from India to Bangladesh which were interrupted following the floods are to be resumed.

Pakistan: The current deadlock in India – Pakistan trade has resulted in no new trade arrangements since the expiry of the last agreement in July 1978. The difference between the two countries is with regards to the channels of trade. Pakistan wants all trade to be channelled through state agencies, whereas India wants a two way flow which would include private trading also. Pakistan wishes to protect her newly developing industry and fears that Indian imports at lower prices will weaken her industry. Also Indian goods with freight advantages will dominate over other countries' imports and will worsen Pakistan's already adverse trade balance with India. India has offered to help Pakistan set up fertiliser plants using natural gas, which Pakistan has in abundance, as fuel. A Pakistan team is to visit India at the end of January to help break the stalemate, and India should offer all the guarantee both to ensure a balanced two way trade and no threat to Pakistan's nascent manufacturing industries.

China: China has offered to sell 2.5 lakh tonnes of coking coal to India, an offer which SAIL is examining. China has also expressed its interest in selling petrol to India. China has suggested that a trial consignment of coal be airfreighted for testing in India's integrated steel plants. The Chinese offer is important in terms of the long run import of coking coal, which India needs and on which India has to make a decision. China has suggested that its coal could be used in shore based plants and would be transhipped from Lienyunkung port. India is facing stiff competition in respect of sacking and jute goods exports in Japan, where China is able to undersell Indian sacking, which, because of labour problems, is irregular in its delivery to Japan. This is on top of the substitution of jute secondary backing by synthetic materials which many Japanese manufacturers are going in for.

Development Assistance: UECD in the annual Development Assistance Committee (DAC) report for 1978 states that the overall transfer of Official Development Assistance (ODA) from DAC members in 1977 was $ 14.7 billion which was a marginal increase in real terms over the $ 13.7 billion in 1976. As a share of DAC members GNP, aid fell from 0.33 per cent in 1976

to 0.31 per cent in 1977. This decline is due to a further and sharp decline in the ratio of aid to GNP of US and West Germany and the relative stagnation of Japan's ratio—the three countries with largest and strongest economies of the DAC group and the world. The report also points to the bewildering variety of aid procedures used by different donors. The different rules on commitment, project appraisals, contracts, disbursement, procurement, accounting and evaluation are a source of great and needless expenditure and worry by the developing countries. The report reiterated the need for increased aid to the developing countries, adapting the aid to the new requirements like rural development of developing countries and the need to search for a common ground for North – South cooperation.

III Development Decade: The UN General Assembly decided in December to evolve an International Development Strategy for the Third Development Decade starting in 1981 and for this purpose set up a preparatory committee. The stategy is to be linked to the New International Economic Order and after the usual battle with the industrialised countries, it was agreed that the development of the developing countries should be the major objective. The industrialised countries wanted to have a holiday between the Second Decade and the Third, on the plea of the need for consolidation and did not want a Third DD Strategy, but were forced to accepting the decision because of the united demand of the developing countries. The preparatory committee will consist of all 151 members of the UN and India will probably be the Chairman. The consensus resolution on the Third Decade adopted notes with deep concern the poor performance of the first two Decade strategies resulting in inequities and imbalances in current international economic relations and the widening of the gap between the world's rich and poor. It urges that the new strategy be designed to accelerate the development of developing countries and establish the New International Economic Order. It directs the preparatory committee to base the strategy within the frame work of viable, consistent, specific, quantitative and qualitative goals on the following directives: 1) bring about in the spirit of mutual benefit, far reaching changes in the structure of world production to expand and diversify production of developing countries and create additional employment, 2) increase food and agricultural production substantially, 3) develop institutions and physical infrastructures in the different development sectors in the developing countries, 4) increasing the share of developing countries in world industrial production to atleast 25 per cent by 2,000 AD, 5) improving the terms of trade of developing countries, ensuring a substantial increase in their share of world exports and extending to them special and preferential treatment, 6) increasing substantially the flow of real resources to the developing countries, 7) enhancing responsiveness of the international monetary system to the needs and interests of the developing countries, and 8) promoting the transfer of technology to the developing countries and developing indigenous capacity in the field of science and technology. The preparatory committee is requested to prepare a draft of the new development strategy

for the next session of the General Assembly, starting in September.

World Trade: Western Europe, the world's largest trading area, has emerged as the proving ground for export trade for every country which wants to make good in its exports. Western Europe's trade with the non oil producing developing world is around 2.5 billion a year and its previous deficit with these countries has now turned to a surplus due to the increasing credit which the governments and banks are giving West European industries to push their exports. On top, US facing a heavy deficit with Western Europe and Japan is pushing its exports harder than ever. Hence the trade deficit of the non oil producing developing countries in 1978 will be $ 30 billion, 8 billion higher than previously according to IMF. Hence the poor results of the Tokyo round are particularly disappointing to the developing countries which will offer them little or no improved access to the European market for their manufactured goods. The industrialised countries argue that with continuing crises in their textiles, steel, shipbuilding and other sectors, they cannot allow the more advanced of the developing countries who have mastered these techniques access to their markets. The improvement of Western Europe trade balance in the first six months of 1978 is reflected in every European country's trade balance, with gains by France, West Germany and Switzerland being due entirely to their terms of trade gains, as their volume balances were actually deteriorating. In the long term the advantages of EEC will increase as their internal barriers fall. The new European Monetary System (EMS) which keeps the currencies of the 9 countries tightly linked, and minimises the damage to their economies from violent swings in value of European currencies against the dollar and each other came into existence on January 1, 1979, and is another link in the chain strengthening EEC and Western Europe's trading position. EMS bases the system on the European Currency Unit (ECU), each member having an ECU related central rate, which will be used to establish a grid of bilateral exchange rates. ECU will also be used to settle up debts incurred by members and may become a reserve asset like the dollar or SDR. With this tight EEC grouping, developing countries may find themselves in fierce competition with it, at which point EEC will emerge as a protectionist force, as it is tending to do.

UNIDO Steel Meeting: The UNIDO consultation meeting in New Delhi in January had before it a UNIDO working document which showed that developing countries registered an annual growth of 7.6 per cent in the steel sector against 2.7 per cent by the industrialised countries between 1967–77. The developing countries produced 77 million tonnes in 1977, which was 15 per cent more than in 1976 and by 1985, including China, will move up to 140 million tonnes, which would be 15 per cent of world steel production against 11 per cent at present. While 60 developing countries are producing steel, 40 countries mainly in Africa have no iron and steel plants or plans for them. For these rather small countries regional co-operation points the way in financing, training, technology and raw materials. By 2,000 AD, 2,35,000 persons would have to be trained in management and marketing, iron ore reserves are abundant and would not be a limiting factor as the developing countries possessed 30.4 per cent of

world iron ore reserves. The meeting which concluded on January 19 formulated a plan of action for the speedy growth of steel industry in the developing countries. It recommended a) UNIDO set up an advisory group of experts to help developing countries in the early stages of steel production, b) setting up a working group to study the question of resource mobilisation for steel plants in the developing countries, c) establishing a steel development fund with the help of developed oil rich countries, d) UNIDO study of the marketing of finished and semi finished products and make the study available to the developing countries, e) UNIDO set up a working group which would help developing countries with their long term contracts on R & D and inputs purchases, and f) UNIDO also study use of natural gas and other forms of energy in the production of iron and steel. It was pointed out that there should be a study of the possibility of linking the prices of fuel and raw materials with those of steel products. The development of iron and steel industry in the developing countries, it was pointed out, will benefit the developed countries through the growth of markets for consultancy services and capital goods. Once more there was a struggle between the two groups of countries, with developed countries expressing misgivings at the role UNIDO was being asked to play in the development of steel industries in the developing countries.

Cotton Development International: The UN is helping to set up an intergovernmental organisation to promote the interests of cotton producers, most of whom are in Asia and Africa. The organisation is called Cotton Development International (CDI) which will finance and coordinate research on cotton production, utilisation and promotion. One of its major goals is to increase the share of cotton in the world market for fibres and so improve the welfare of the millions of cotton farmers and textile workers in the developing countries.

World Wheat: The world production of wheat is estimated at 427 million tonnes in 1978–79, compared to the previous year's 385.5 million tonnes. The world consumption however will increase only by 2 per cent to 407.4 million tonnes, leading to a surplus of 19.7 million tonnes in the current crop and a final carry over of 100.5 million tonnes. The expected slow down in world trade increased world wheat stocks, lagging consumption and large reserve stocks are bringing at long last international wheat prices down. The world wheat trade is expected to shrink from 73.3 million tonnes to 69.5 million tonnes because Western Europe and USSR which are normally the largest importers have the highest production this year. US, the largest wheat exporter, has the highest percentage of decrease in production, while Canada which has 7 per cent increase will be exporting less due to handling and transportation porblems. China is purchasing large quantities of wheat from Australia, Canada and US, totalling 9 million tonnes.

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II Agricultural Production

Paddy & Others:

The late December rains have done some damage to crops. In Thanjavur district 30,000 acres of Samba and 25,000 acres of thaladi crop were submerged, with 3,000 acres of newly transplanted seedlings badly damaged. Because of water logging, the per acre yield in Thanjavur district may be reduced by 5 to 10 per cent. In Ramanathapuram 264 minor and 24 major irrigation tanks were breached. In South Arcot 29 tanks were breached and 65,000 acres submerged. In Pudukottai district, 21 tanks were breached and 18 other irrigation sources affected. In Chingleput district, 5,000 acres of paddy crops were damaged, 1 lakh acres affected so that yields there may be reduced by 10 to 50 per cent. 3,000 acres of groundnuts have been badly affected. The Department is therefore moving quickly to take advantage of the plentiful supply of water and raise summer crops,-7.5 lakh acres under paddy, 11 lakh acres under pulses, 7 lakh acres under millets, and 6 lakh acres under oil seeds. New paddy varieties resistant to pests and diseases and capable of giving higher yield than Ponni, IR 20, ADT 31 are being released. Improved strains of ragi, gingelly and blackgram are to be issued on Tamil New Year's day. Plant protection, chemicals and fertilizers are to be made available to the farmers throughout the year. The Department has introduced an instrument called Gravitor applicator which will save the farmer 50 per cent of fertilizers, and 75 per cent of pesticides. For dry land farmers a multipurpose implement for ploughing, bund farming and sowing has been introduced. During this year quality seeds are being produced over 32,000 acres, and the Department will distribute certified seeds to cover 7 per cent of the total paddy area. Farmers are being encouraged to grow blue green algae, as it grows well in paddy farms and gives the crop Nitrogen. About 50,000 acres will be brought under HYV paddy cultivation in the Coimbatore district in the summer months. The district had a successful kharif season with 2.20 lakh acres under paddy producing 5 lakh tonnes, the yields ranging from 2,033 to 2,100 Kgs per acre. 97 per cent of the paddy are under HYV—IR 20, Ponni, CO 36, ADT 31 and Vaigai. Hybrid maize was grown over 61,800 acres and of 7 lakh acres under various types of millets, 5.70 lakh acres were cultivated during the kharif season yielding 1.68 lakh tonnes. The Department has also decided to bring an additional 35,000 hectares over the normal area of 2.05 lakh acres under groundnut during the coming rabi season. To even out the fluctuation in yield, as it is largely grown in dry lands, increasingly groundnut cultivation is coming under irrigated cultivation. Maso ground spraying introduced last year over 52,000 hectare is to be extended this year to over 1 lakh hectares and subsidy of Rs. 7.50 per hectare is to be given to meet a part of the spraying charges. A seed certification scheme has been introduced for distribution of quality seeds. Over 60,000 hectares are being brought under gingelly for the rabi season this year. A package scheme comprising three programmes to cover 22,000 hectares of

coconut is being introduced in the district of Kanyakumari, Coimbatore and Ramanathapuram. With Thanjavur where the scheme is already operating, 32,000 hectares will be covered and coconut production will increase by 240 lakh units by 1981. The farmers are being provided the needed institutional finance. The state government passed orders in early January fixing a procurement levy of 20 per cent for the coming Samba crop – to be imposed only on paddy stocks moved outside the state. Last year the Samba levy was 50 per cent, which was reduced to 20 per cent for *Kuruvai, with Thanjavur farmers being* exempted to clear their accumulated stocks (see vol VII p 701 and vol. VIII p. 19)

Research Results

In paddy varieties, Ponni has gained wide acceptance among the state's farmers for both Samba season when it is almost universally used as well as a kharif crop. Because it is photo sensitive, matures early, make no difference when planted late and has good straw yield, it is grown in Navarai (January – May) and Swarnwari (May–September) and in the Pisanam season (September – January) in Tirunelveli district. It is also grown under low soil fertility conditions and low lying semi dry areas as in Chingleput district. It is pest prone and so in addition to limited use of chemicals, judicious use of fertilizers and good cultural practices, biological control through use of predators and parasites will bring down the population of stem borers, gall midge and leaf and plant hoppers, the IRRI research shows. If the pest build up increases beyond 20 to 30 per hill, pesticides in controlled quantities may be used. *IRRI research has demonstrated that* bacteria growing around the roots of rice plants enrich the soil with 10 to 21 Kg of nitrogen per hectare during one growing season. The IRRI research team has quantified the amount of nitrogen that is fixed in the soil by free living bacteria, and the next stage is to identify which rice strains encourage greater nitrogen fixation by the bacteria, so that by using those strains the land can be kept perpetually fertile. Four green pea varieties with high yield have been evolved by the Gwalior Research Institute and one, Jawahar Matar-1, has *been released for cultivation throughout* the country. A quick and heavy yielder, within 90 days it is ready and yields 1,200 Kgs per hectare. The other varieties JM-2, 3, 4 are also heavy yielders, but are subject to powdery mildew disease, from which 3 other new varieties 6587-I and II and P 388-1 developed by the Jabalpur centre are free. The Tamil Nadu Agricultural University research has produced a small sized pumpkin, CO-2, which yields in 90 days, each vine giving 10-12 fruits and is disease resistant. The Agricultural research Centre in Vaniambadi under the Tamil Nadu Agricultural University has discovered that trunk injection of coconut trees with Nuvacron destroys the nephantis caterpillar and rats which are serious pests of the coconut palm. Whether the new fruits formed after the injection carries any pesticide residue has still to be investigated. On cash crops, the Tamil Nadu Agricultural University has produced a new groundnut variety, F2, which is a high pods yielder, matures in 110 to 115 days, is resistant to leaf spot disease, and a further derivative, F4, is at the demonstration stage. The University has also developed a biological method to deal with the coffee green bug through the

use of the white halo fungus, which is now in wide use by the coffee growers in the Palani hills. The Department advises the Varalakshmi cotton farmers, concentrated in Madurai district, that the only way to avoid the pests like prodenia which attacks the superfine cotton variety is to rotate cotton with some other crop at least once in five years to clear the pest. Tobacco research which is important for the South as farmers in 10 districts in AP, Tamilnadu, Karnataka are dependent on its export for their living, emphasises the importance of planting the crop on time, in the most suitable soils, following correct rotation and using proper nutrition levels for the maximum yields from the varieties used. Similarly the use of pyrites for reclaiming alkali and saline land (of which the country has 7 million hectares) is at the beginnlng stages of urgently needed investigation.

Oil Seeds Cooperatives and Jute Corporation

Oil seeds producers in the state are to be organised into cooperatives and given a major stake in the oil industry. The Dairy Development Board plans to gift 2,50,000 tonnes of edible oil, by marketing which it would generate Rs. 160 crores for the oil seeds producers cooperatives which will be responsible for processing, refining and hydrogeniation factories. The producer's cooperatives in Tamil Nadu and 4 other States Gujarat, AP, MP and Karnataka, will produce 15 per cent of the oil production in the country and will expand oil seeds production by 40 per cent in the areas where the co-operative operates and will gradually replace the annual import of Rs. 730 crores of vegetable oil. The Madras Gunny Exchange has formed a Commercial Crops and Produce Corporation to grow jute and maesta in the state. The Corporation will buy green cut plants and have them transported for processing, using correct retting techniques with jute ribbonning machines and jute fibre decorticators. It will start with growing jute and maesta jointly with the farmers and later move to other commercial crops. It will plan its cropping pattern under the guidance of the Cultivators Consultative Council that has been formed for the purpose. The state can grow jute and maesta, the bottleneck has been their marking, and this the Corporation will supply.

Dairy Farming

The Tamil Nadu Dairy Development Corporation is to be replaced by a Tamil Nadu Milk Producers Federation, the government announced in January, with a view to increasing milk production in the state by involving the milk producers in the fixing of milk prices and other important responsibilities. Milk producers cooperative societies are to be formed in each village to be affiliated to the Milk Producers Union at the district level, which in turm will be affiliated to Milk Producers Federation at the State level to be formed before the end of March. Six months ago the government had issued an order to liquidate the Tamil Nadu Dairy Development Corporation which is being acted upon in phases. The World Bank is lending Rs. 40 crores to the State for starting milk powder producing units in each district, which requires milk producers in each district to expand milk production to make the plants viable, as seen in the unutilised capacity of Tamil Nadu Dairy Development Corporation's milk project plant at Madurai. While its capacity is 1 lakh litres of milk a day, it receives only 65

litres. During the past 2 years, milk production in the State has decreased by 50 per cent, because the animals are not being maintained properly. There is need for attention to the financing of dairy farming possibly through a Dairy Finance Corporation, because the banks have so many preoccupations and are not able to attend to the needs of milk producers.

Tea

South Indian tea production for 1978 is estimated at 130 million Kgs. which is a million Kg less than the 1977 record crop, due mainly to the good performance of the Nilgiris tea gardens. North Indian tea production up to November 1978 was 430.9 million Kg (up by 12.3 million Kg over the production up to November 1977), so that the total tea production of the country could be a little short of 600 million Kg for 1978. Sri Lanka's tea production up to November 1978 was 181.9 million Kg (less by 10.6 million Kg compared to the 11 months of 1977), Bangladesh was 34.3 million Kg (less by 1.6 million Kg) and Kenya up by 6.1 million Kg between January and October 1978, so that world tea production is likely to be the same as in 1977. Tea prices in London in 1978 were on the average 27.3 per cent lower, Cochin by 5.06 per cent. In exports, Sri Lanka, Kenya and Bangladesh made gains, but India's declined, South Indian tea exports declining from 54.1 million Kg. in January to November 1977 to 33.8 million Kg in the same period in 1978. Hence India's tea exports earning fell by 50 per cent at Rs. 224 crores during April—December 1978-79, compared to Rs. 469.8 crores for that period in 1977-78. If in January—March 1978-79 exports are the same as January—March 1977-78 at 47 million Kg, then the total exports for the year will be 159 million Kg against the previous year's 222 million Kg. This will mean a glut in supply for both the total remaining production of 400 million Kg and carry forward stock of 35 million Kg, and the domestic consumption of 325 million Kg, there will be huge carry forward of 110 million Kg which will be a real burden on the industry. Tea gardens in the South are going in for a long term programme of rejuvenation, pruning and infilling followed up by pest control, fertiliser use and allied practices which have helped to raise its production referred to earlier. South India has 74,000 hectares under tea, of which 20,000 hectares are 31-40 years old and 28,450 hectares bushes are over 50 years old. The area covered by extension, replacement planning and replantation in the past few years has been 0.5 per cent of the total under tea. The Tea Board provides Rs. 3,000 per hectare for rejuvenation, pruning and interplanting, though agronomic conditions in the South do not permit large scale replantation and their cost is far above the small subsidy. As for new plantations, Tamil Nadu and Kerala are not keen on private gardens being expanded and are using their Forest Departments to develop tea plantation on the surplus land acquired. The cost of new plantation at Rs. 40,000 per hectare calls for a minimum per hectare yield of 1,600—2,000 Kg and a minimum price of Rs. 15 per Kg, which offers no inducement to private gardens. In the North, the 97 tea estates in the Darjeeling area are experiencing low productivity, fall in prices and distortions in marketing network. About 80 per cent of the tea bushes are 50 years old and require complete replanting. The Board has asked the Commerce Ministry to

obtain World Bank aid for the ailing tea gardens. The government granted in January a cash subsidy of 42 paise per Kg on package tea to promote its export, and has reduced the import duty on tea bags making materials from 75 to 25 per cent.

Coffee :

Coffee production in 1978-79 is estimated at 1,10,000 tonnes compared to 1977-78's 1,22,250 tonnes. Exports in 1977-78 were 55,827 tonnes, earning Rs. 230.45 crores. In 1978-79 exports up to September were 36,429 tonnes, earning Rs.88.95 crores, and upto October it was 38,259 tonnes and Rs. 93 crores. ICO meeting in London in January noted the falling trend of world coffee prices and a return to normal coffee consumption, and so launched a programme of coffee promotion, using its $ 20 million fund, of which $ 4 millions are earmarked for ICO projects and a coordinated research programme on European consumer habits and attitudes is being undertaken.

Rubber :

The production of natural rubber between April-October 1978-79 was 73,087 tonnes compared to 82,788 tonnes in that period in 1977-78. However the production of natural rubber increased from 11,105 tonnes in October 1977 to 17,070 tonnes in October 1978. Stocks declined by 17,699 tonnes at the end of October 1979. Consumption during April-October 1978-79 was a high 90,414 tonnes and hence there was a continuing deficit in supply. The plan to import 15,000 additional tonnes (see last issue p 86) has run into trouble as the rubber users have asked for approval to make direct purchases in order to avoid the poor quality rubber imported by STC whose first 15,000 tonnes imports are alleged to be water logged and rotten. The tyre companies are agreeable to STC retaining the basic license and clearing any contracts entered into by manufacturers. The Rubber Board has been asked by the government to reactivate the rubber replantation subsidy scheme to increase rapidly rubber production in the country and to bring more areas under rubber cultivation particularly in Andaman and Nicobar islands, Tripura, Goa, Tamil Nadu and Maharashtra. For Kerala, the subsidy scheme will help to boost production. The Union government has set up a committee with the Minister of Commerce, Industry and Rubber Board representatives to study the rubber supply position and advise on further imports.

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III Industrial Development

Industrial trends:

The trend towards industrialisation which was the hallmark of late fifties and sixties in the state has not continued over the last 10 years. With limited electricity and almost no raw materials, the state through an intensive effort emerged in the sixties as the third most industrial state in the country. It has now slipped to the fourth position. It leads only in two industries – leather and automobile products, in both of which it produces about 66 per cent of the country's total production. In the seventies, it has registered an increase in 9 important industries and a decline in 15. It is now necessary for a clear and long term industrialisation policy to be adopted by the government which will use to the full the only resource available to the state – the entrepreneurial abilities of the people. With the improved power position and the number of further power projects taking shape both on a state and regional basis, there is need first for policy to ensure that fertilisers, special steels, automobiles, paper, cement, electrical and engineering goods industries begin to expand: that advance planning and integrated action be undertaken on high value added items like the products that can be produced from Salem Steel, and the launching of fabricating factories using iron and steel and non-ferrous metals, and in areas like electricals and electronic engineering where the state's manpower resources can come into play.

Neyveli:

For Neyveli expansion schemes, the first system of specialised mining equipment was commissioned at mid January. The Union Ministry's assessment shows that it is lagging behind in lignite production in the period April-December 1978-79 and in fact all parts of the expansion schemes, – the fertiliser plant, the briqcutting plant, the second mine cut and the second 630 MW plant are all behind schedule. The monsoons and cyclone caused damage and called for major repairs to the bucket wheel excavator and structural machines. Similarly one of the drawers of the urea plant went out of use for repair, one gas generator shut down due to a leak. During the current year Rs. 42.14 crores (Rs.40 crores for continuing schemes and Rs.2.14crores for new ones) were provided and for 1979-80 Rs. 73.50 crores have been provided. The special mining equipment to augment lignite production now costs Rs. 128.9 crores against the original estimates of Rs. 87 crores and this has been approved by the Union government. The major portion of the equipment has been ordered, one system erected and the cord system of specialised mining equipment commissioned as noted earlier. It is expected that by the middle of next year, all 3 systems will be erected and for this an expenditure of Rs. 35 crores has been provided in the revised estimates of the year and additional Rs. 5.5 crores in budget estimates for next year. While costs are thus esclating (the fertiliser plant estimated at Rs. 12.57

crores has risen to Rs. 17 crores), Neyveli's internal resources are declining because of lower production and the impact of wage revision. It is necessary for the Corporation to continue economising its resources and ensure better norms of maintenance and operation of equipment and optimum use of existing plant and equipment.

HPF:

HPF's development plan for expansion includes new projects, expanded production and modernisation of plant and machinery. It will set up a new cine positive plant costing Rs. 50 crores, a new coating plant and take new important substitution action at a cost of Rs. 6 crores. The demand for photographic products will be met by the modernisation and expansion programme. With the addition of 5 more depots at Bhopal, Jaipur, Srinagar, Bhubaneswar and Gauhati, its marketing organisation is being strengthened to have products available in all state capitals. With these depots, a 20 per cent increase in demand for the coming year is forecast and buffers of 30,000 cine roll film valued at Rs. 75 lakhs and Rs. 2 crores of X-ray films are being built up, with similar buffers for imported jumbo films. Though this means running up a high inventory, it is inescapable as the means of meeting the fast increasing demands of the film industry which has to meet the public demand for colour films. In collaboration with Du Pont, US, the finishing plant at Ambattur to convert industrial X-ray films is being set up and a new coating plant planned to increase production.

ICF and Madras Refinery:

The Integral Coach Factory will attain its full capacity of building 750 coaches this year, against 757 in 1976-77 and 671 coaches turned out in 1977-78. The Sixth Plan provides for an increased input per coach, arising out of use of new designs. The country's annual demand is 1,600 coaches at present and will increase to 2,000 by the end of the plan period. ICF has already reached its maximum capacity and there is the question whether the Railway Board needs to set up a new plant to meet this expanding demand in addition to ICF, Bharat Earth Movers (400 coaches) and Jessops (350). ICF is exporting Rs. 12 crores of coaches in 1978-79 and has secured export orders from Phillipines (30 coaches), Uganda (70), Vietnam (50), and Taiwan (48). It is now concentrating on producing 500 classless Janata coaches with cushioned seats. Till December 1978, it has produced, 13,001 coaches of all classes including electrical units and has been entrusted with design and manufacture of coaches for the Calcutta tube railway. Madras Refinery reports that in place of Darius crude from Iran whose supply is falling off, it will be processing crude from other countries and Bombay High. This might to some extent affect the sulphur production from the plant.

Small Industries:

The Small Industries Service Institute (SISI) has developed an action plan for establishing 100 small industries in Ramanathapuram following a techno-economic survey conducted by the Institute. The investment needed is Rs. 1.60 crores as fixed capital and Rs. 2.65 crores as working capital, the

plan generating 6,300 additional jobs. In Sivakasi and Sattur taluks different raw materials will be made available for the manufacture of matches, with supporting fire works units, printing industries, paraffin wax, glue, pigment, cardboards and chemicals units. Two estates at Rajapalayam and Aruppukottai each with 15 sheds are to be set up, with an investment of Rs. 30 lakhs each. Coal shortage in the State is affecting small industries and units with coal fired boilers. In Coimbatore alone 200 foundries were on the verge of closure at the end of January. The coal demand of the small units in the State is 25,000 tonnes a month, against which the Railways have allocated 5,900 wagons including that needed for moving Singareni Slag coal. The small units in the state need 2 rake load of hard coke per month, but in December only one rake load was moved and in January none till the end of the month. Hence some of the units are moving coal by road at a heavy cost of Rs. 400 to Rs. 450/= per tonne from Singareni compared to the rail cost of Rs. 130 to 150 per tonne. This situation arises from the railways, as the production of coal is growing in BCCL, CIL and Singareni as noted earlier. The demand in the South will increase by 15 per cent in 1979-80 and wagon availability which is very short even in Singareni must be righted. Soft coke supplies to the State are no longer held up because of ECL's low production as in December their production spurted from 50,000 tonnes to 85,000 tonnes a day. Such correct action by the railway will also meet the Industry Minister's comment that DICs are not promoting effectively rural industrialisation, particularly cottage and household industries, and for this in addition the State Department, the Khadi and Village Industries Board and SISI should take effective action.

TIDCO:

Three joint sector units sponsored by TIDCO at a total cost of Rs. 6.9 crores will be going into production between February and November this year. One is the Rs. 1.2 crore finished leather project of Inter Continental Leathers at the SIPCOT complex at Ranipet, the second is the Rs. 3.5 crore pulp and paper plant of Gangappa Paper Mills using paddy straw as raw material and the third is the Rs. 2.2 crore acetic àcid and acetic unhydride unit in Southern Hydrocarbons at Pudukottai as the second factory in the country to use the process to produce both products. To date TIDCO has taken up 58 projects, of which 14 have gone into production with a total outlay of Rs. 138.69 crores. Another 24 projects are under implementation with a total outlay of Rs. 185.42 crores. 9 other projects with an outlay of Rs. 70 crores are under consideration and 11 with an outlay of Rs. 648.10 crores are in the planning stage. TIDCO's Tamilnadu Cements is examining the possibility of setting up one or two new cement plants using the limestone deposits of Madurai district.

Sugar :

The Sugar Undertaking (Taking over of Management) Act 1978 is not being applied as from November 15 to this state because of the natural disasters in November and the later crushing season in the State. 13 mills had not started crushing as at November 21, while 8 units started before that date. The state government has recommended to the Union government the take over of 2 sick sugar mills,

the one at Pettavathalai in Trichi and the other at Pennadam in South Arcot. The two units have arrears to cane growers over the statutory limit of 10 per cent and have failed to start crushing even on December 15. The State Government has expressed to the Union its willingness to run the two factories.

TNAIC :

Tamil Nadu Agro Industries Corporation has set up a large sunflower oil complex at a cost of Rs. 60 lakhs to crush 58 tonnes of sunflower seeds a day and 60 tonnes of deoiled cakes for solvent extraction, producing 2 tonnes a day of edible oil. As against the present 7,200 acres in Madurai, Ramanathapuram and Tirunelveli district, the complex will help expand sunflower cultivation over 45,000 acres. The Corporation will buy sunflower seed at Rs. 2.25 per Kg. against the market price of Rs. 1.85 per Kg to encourage the farmers to cultivate sunflowers. The Corporation which has a solvent plant with a 20 tonnes per day capacity is setting up two extraction plants with a capacity of 100 tonnes a day at Poonakulam in Pudukottai district and in Chingleput district at a cost of Rs. 50 lakhs each. The Corporation's fish net plant at Guindy is working to full capacity and is being expanded from an outlay of Rs. 15 lakhs to Rs. 23 lakhs. Other projects under consideration by the Corporation are a Rs. 15 lakh project for the production of fortified sago in the Kanyakumari district, a mango fruit processing plant at Periakulam in Madurai district and a cattle feed concentrate mixing unit making use of the rice bran, deoiled cake and alfafalucerne available in the State.

Handlooms :

A SITRA study for the Union government aimed at increasing the productivity of handlooms and improving its competitiveness vis-a-vis powerlooms and mills recommends a) adoption of handlooms by spinning mills which means the supply of yarn, meeting conversion charges, and procuring the fabrics, finishing and marketing them and b) formation of technical cells to overcome the technological stagnation of the handloom industry and the transfer of technology and easing bottlenecks. The technical cells will be responsible for collecting and disseminating information, provide training facilities, floor level and demonstration, set right loom defects, check the quality of yarns, fabrics, chemicals, dyes etc., and introduce quality control measures to improve quality. The study recommends a number of modifications of machines and processes and on that basis its low input-output process can generate a good deal of employment.

Leather :

Leather exports have increased in the first eight months,-April-November 1978-79, by 22 per cent to Rs. 209.17 crores compared to Rs. 171.13 crores in the first 8 months of 1977-78, so that the year's target of Rs. 330 crores may be exceeded. Finished leather exports have increased by 81 per cent; while that of semi processed EI tanned categories by 12 per cent and wet blues by 30 per cent. Finished leather exports which were a mere Rs. 3.56 crores in 1971-72 have in the eight months of 1978-79 earned Rs. 118 crores due to the increased finishing capacity of tanneries, which is 30.3 million hides and 42.57 million pieces of skins, with an

additional capacity of 11.7 million pieces of skin and 21 million hides to be added this year. The government's promotional measures following the Seetharamiah Committee recommendations are now paying off. The prospects for exports of leather garments are bright in view of the spurt in the import of leather garments in US, Europe and Canada from $ 80 million in 1965 to $ 1,004 million in 1976-77, reaching an estimated $ 1,500 million in the next 5 years. India can take advantage of this boom if the leather garment industry is modernised and its production and export problems solved. The leather trade is worried over the Union government's policy of allowing the export of live animals which is increasing very rapidly. It points to the policy contradiction in banning exports of raw hides and curtailing that of EI tanned leather on the one hand and allowing this waste of animal exports which is a non value added item, on the other.

Private Sector Reports:

The Annual report for the Lakshmi Mills for the year ending March 1978 refers to the increased turnover for the year of Rs. 395 lakhs at Rs. 2,698 lakhs. Machinery has been replaced at a cost of Rs. 63 lakhs and other replacement and renovations have been undertaken to the tune of Rs. 45 lakhs. It reports that all the formalities have been completed for the amalgamation of the Coimbatore Cotton Mills with it and in the meanwhile the Coimbatore Cotton Mills are being supplied with raw material and receives in return the finished material which is marketed.

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IV Education, Science and Health

International Year of the Child:

The United Nations has declared this year 1979 as the International Year of the Child during which all countries, particularly poor countries are to improve the conditions under which the children, the majority of whom are from poor families, live. India and the state have devised special educational, welfare, nutritional programmes for children. In the state a Rs. 1 crore Children's Fund has been started and a Rs. 70 crores nutrition improvement programme for children is being implemented with the help of the World Bank in 6 districts. The scheme is a package of supplementary nutritional feeding, health care, water supply and pre school education. 9,000 village panchayats have no Kuzanthaigal Kappagams (care home for children) and these will be provided from this year within 5 years. The urgency of the year and the programme is that 50 per cent of the intelligence base of a person is formed before age 5

and another 30 per cent before age 8, so that inadequate food and consequent malnutrition at this stage does permanent damage to the children, which no amount of later feeding or protein intake can set right. Also the learning environment before age 8 is decisive and this is what our educational system must turn around and realise. During the year the state will start a care home for destitute children and supply prosthetic aids to handicapped children. More children's clinics in the rural areas and a full fledged immunisation programme are aimed at protecting the health of the poor children.

School Reform:

Andhra Pradesh has launched the scheme of progressive primary schools (see volume VIII page 524) on the basic school model with strees on spiritual and moral education. The school day starts at 6 A.M., children, wearing a uniform, given a glass of milk and then go in for prayer, yogasanas in which the villagers join and physical exercises. They are given a midday meal cooked by the village mothers and the teacher has a close relation with the students and is given the freedom to change the syllabus and school holidays to suit the local requirements. The teacher is to be a guru and education is not what is in a text book but what arouses the capacity of the children to learn. 700 progressive primary schools have been started and the initial problems faced in finding the resources for the uniform, the daily milk, etc., should be quickly met. The villagers are enthusiastic and this reform is a start for all states and for this state to follow. On the other hand Bihar reports that over 3.5 lakh primary school age children dropped out in 1977-78, for which one reason is said to be distance of middle schools from the village. In part this is also due to class V being detached from the primary school and attached to the middle school. The Union ministry proposes that 20 per cent of the school time should be devoted to culture and for this teachers are being oriented and part time teachers are being used to teach village students fine arts and creative activities. The state government launched a scheme in January to honour distinguished persons in fine arts and letters and choose 2 vocalists, five instrumentalists and a dancer and 5 men of letters for the awards on Tiruvalluvar Day.

Mass Communication and Satellites:

ISRO announced in January that Rohini, an experimental satellite will be launched from Sri Harikota in April, to be used for earth observation. India also has a geostationary satellite for Aerial Passenger Payload Experiment (APPLE) under development in the country to be launched by a European launcher in 1980 May. The Indian National Satellite (INSAT) now being built by a space contractor will be launched by 1981 and will be used for telecommunication meteorology and TV. INSAT will make telecommunications available to remote areas like Leh (Jammu & Kashmir), Aizwal (Mizoram), Kavarathi (Lakshdweep), Port Blair and Car Nicobar and will be linked with Delhi and Madras, the gateway stations. The main earth station at Chingleput linking Madras to the country's satellite communication networt will soon become operational, the connecting terrestrail micro-wave link and the necessary installations which

are complete, costing Rs. 150 lakhs. The INTELSAT programme will commence progressively from June 1979 and when INSAT is launched in March 1981, the seven earth stations working via INTELSAT will be linked instead to INSAT. 22 earth stations are being set up, with Calcutta, Bombay and Shillong as main stations and eight primary stations at Jullunder, Lucknow, Patna, Bhubaneswar, Jaipur, Ahmedabad, Hyderabad and Ernakulam. Telecom also announced in January that Bombay-Madras TV channel will be commissioned through micro wave unit in 1979-80 which will allow TV casts to be exchanged between Madras, Bombay and Poona.

Technical Education :

The Southern Regional Council of the All India Council of Technical Education meeting in Madras at January end approved 30 technical courses for different institutions including a full time degree course in production engineering at the Engineering College, Guindy, a post diploma course at the Nachimuthu Polytechnic at Pollachi, medical equipment technology at Central Polytechnic, Madras, welding technology and dieseltraction at the Government Polytechnic, Tiruchi, diploma course in petro-chemical engineering at the Government Polytechnic, Tuticorin, knitting technology at Coimbatore, refrigeration and air conditioning on sandwich pattern at Ramaswamy Raja Polytechnic, Rajapalayam, part time textile technology at PSG college of Technology Coimbatore, diploma course in textile technology on sandwich pattern at Theagarayar Polytechnic, Salem, agricultural engineering at Muthiah Polytechnic, Annamalainagar, foundry practice and production engineering at PSG College of Technology, Coimbatore and electronics on sandwich pattern at MCM Polytechnic, Avadi. The Institution of Engineers at their annual convention in January have recommended: a) nonformal engineering education on a large scale to upgrade the quality of engineering manpower at the technician level, and to make technician training product oriented in place of the present discipline oriented studies, along with a proper evaluation system along lines of independent Graduate Records Examination (GRE) system, b) higher engineering education to meet manpower needs of R & D team, futuristic study groups, high technology application and maintenance system—relying mainly on the formal system.

Science :

A national workshop on the transfer of technology for rural development run by the National Agricultural Staff College in Hyderabad has recommended a massive programme for the transfer of farm techniques to the field through the adoption of 50,000 families to be undertaken by all 860 institutions of ICAR, the Agricultural Universities and voluntary agencies, preference being given in the selection of blocks, villages and farm families to IADP blocks, along with a lab-to-land operational manual providing information on all available technologies and a system of evaluation and monitoring that will enable programmes in execution to make mid course corrections. It has also recommended that the marketing infrastructure should be accelerated to match the increase in production and the organisation of national, state, institute and University level agri–

cultural exhibitions, lectures and discussions. The findings of a survey of the psychology of Indian scientists presented at the Indian Science Congress held at Osmania University, Hyderabad, in January calls attention to their dissatisfaction about promotion, salary, working conditions and availability of equipment for research which have limited their creativity, with varied reactions to nationalisation of research institutes. Some feel that it would give a fillip to scientific research, others that it may add to bossism and bureaucratic control. It shows that a climate of autonomy and fair play in appointments and promotion is more conducive to the optimal functioning of scientists than monetary incentives. The Congress's major conclusion was that the country's scientific research and technology should move more fully into the areas of rural development, which is the country's priority. The Sri Chitra Prize for the best scientific publication for 1976-77 was presented to the book, "An inventory of germ plasm of plants of economic importance in South India", whose co-authors are Profs. Ninan, Gopal Krishna Pillai, Abraham and Dr. Susan Abraham of the Kerala University Botany Department. CSIR's technical Manpower Bulletin reports that the Council enrolled 21,495 scientists, engineers and doctors working abroad in its scientists pool during the 20 years of its existence, offered jobs to 11,726 of these scientists, of whom 7,300 returned to India. Of them, 4,945 accepted the employer's offers and joined duty. 227 went abroad again, 4,427 left the pool service on securing regular employment. 1,160 scientists selected for the pool found their own employment without joining the pool. 1,130 did not respond to the pool offer. The largest number selected for the pool came from US (4,770) followed by UK (3,938), Europe (1,536) and Canada (755). 71 per cent of the medical personnel, 52 per cent of the scientists and 46 per cent of the technologists enrolled for the pool had been selected.

Health :

The family planning record of the country is the subject of differing interpretation. The Union Minister of state for health reports a poor performance in the period April to November 1978-79, when sterilisations were 6,50,000 against the year's target of 40 lakhs, IUDs acceptors were 2.49 lakhs against the target of 6 lakhs, 27.8 lakh contraceptive users against the year's 40 lakh target. In view of this, the minister reports that the government has decided to make January the Family Planning month to achieve the 1982-83 target of 30 per 1,000, involving a massive campaign to remove misgivings of the families about the programme and allowing each state to devise its incentives. The ministry, however, in its report in December states that there was a marked improvement in the nine months, April-December, when sterilisation went up to 7,95,741 and IUD insertion 3,05,623. This is a percentage increase (of 34.9 and 61.1 per cent over the 9 months of 1977-78) but is still far short of the target. The ministry also reports that the southern and eastern states are doing relatively well, while the northern states are lagging far behind. The government is involving private medical practitioners in educating their patients in the benefits of a small family, and is giving private doctors Rs. 30 for a vasectomy and Rs. 5 for IUD insertion to cover the cost of drugs and medicines. In this state, in each district, one male

and one female doctor are being appointed for follow-up action on complications under the family planning programme. Before the end of March, the state has before it the target of 2,75,000 sterilisations, against which 75,000 have so far undergone sterilisation between April-December. Rs.16 lakhs are being spent on family planning publicity and rural family planning camps and health care services are being organised. The ICMR centre located at the Voluntary Health Services at Madras reports a breakthrough in the culture of leprosy bacillus which opens up the possibility of producing the much needed anti-leprosy vaccines. This prospect of a vaccine against leprosy is important for India, as it has 20 per cent of the world leprosy population. The vaccine cultivation will also help studies in epidemiology diagnosis and treatment of the disease.

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V Employment

In January, as noted earlier, there was serious disruption to trade, industry and all manner of transactions as a result of a prolonged "go-slow", "work to rule" and "no over-time" which the bank employees staged, together with stoppage of cheque clearing services in all major cities, in pursuance of their demands for higher DA, bonus etc. The government was firm in their response to some of the demands and the public reaction was hostile, leading in Ahmedabad to stoning of banks and counter strikes and bandhs by traders and businessmen in many cities. All these factors helped the union labour minister and the Governor of RBI to bring about a settlement which involved agreeing to the major demand for DA which will be negotiated during the week from January 29. As a result, the agitation and the strike threat from February 2 were called off. On the employment front, the Union government is of the view that to meet the growing unemployment problem, it is necessary that labour absorption should be around 3 per cent a year. The annual growth of the labour force is 2 per cent and the backlog of unemployment of 8 per cent of the labour force in previous years will be absorbed over a 10 year period. This has implications for the current 1978-83 plan in terms of maintaining the highest growth rate possible and regulating the rate of technological change particularly to make the production pattern more labour intensive so that the growth rate of employment is maximised. In the organised sector handled by the Union government, the employment growth rate is half of that of the production growth, and since recorded

employment is only 9 per cent of the total labour force, a 6–7 per cent growth rate in large scale industrial sector planned by the government will absorb only 0.3 per cent of the national labour force. Here the aim of making production more labour intensive also coincides with the aim of redistributive justice. Every Rs. 10 lakh transferred from the *non poor* to the poor will generate 20.2 additional person years of employment. For employment creation the Industry Minister has proposed creating a National Reconstruction Army (NRA) comprising 1 million able bodied persons above 18 years who will sign up for 3 years and be paid Rs. 100 a month plus a diet of 400 grams of cereals and 50 grams of pulses (which is the current per capita availability) which will work out to Rs. 300 crores, including basic equipment and other inputs. Part of this cost can be met from existing projects, as the NRA will be working on plan projects. The scheme is under study. The Food For Work Scheme is expanding and the current year's target of 1 million tonnes is likely to be exceeded, involving a net transfer of Rs. 125 crores of Union resources to the state, outside of the Union Plan assistance. States are allowed to ask for wheat or rice under the scheme. With the states' cash component of Rs. 75 crores to the total programme of Rs. 200 crores, the additional employment would, at the average wage rate of Rs. 5 per person per day, be 400 million mandays. During 1978–79, until December 1978, 5.20 lakh tonnes of wheat and 1,249 tonnes of rice had been released. 20 states were participating in the scheme. For 1979–80 a target of 1.5 million tonnes of cereals has been set for this programme. Tamil Nadu, which is one of the 20 states which joined the programme somewhat hesitantly in April 1977, has from January joined fully when rice was made available. The state government has asked for the supply of 40,000 tonnes of rice to launch a massive employment programme. The Union government wants voluntary agencies to help broadening the employment scheme and has offered each panchayat 10 tonnes a year if they operated the scheme. It has suggested a system of monitoring be established in each state and commended the system adopted by some states of distribution coupons which are exchanged by the workers at the fair price shops as one means of ensuring foolproof distribution. Maharashtra has introduced a scheme of financial aid to educated unemployed from January 1,1979. A provision of Rs. 3.50 crores has been made in the state budget 1978–79, half of which was spent by December, the other half to be expended by March 1979. For projects costing up to Rs. 1 lakh, seed money is given up to 15 per cent to non–backward classes and 20 per cent for backward classes with the rates going up to 20 and 22.5 per cent for those with family income of less than Rs.4,800 per annum. Reserve Bank of India has asked the nationalised banks to provide liberal seed money to the unemployed graduates and has asked the banks not to insist on third party guarantee for such schemes. Unemployed graduates or Post SSC holders are provided parttime work for 3 to 4 hours a day and are given an honorarium of Rs. 100 a month for up to 3 years or when full time employment is secured. SSC holders are given Rs. 100 a month to cover the expenses incurred when looking for a job for a period of 3 years. Both groups shall have been on the Employment Exchanges for 4 years for backward class and 5 years for others. Maharashtra is the third state—the others

being West Bengal and Punjab to operate this somewhat radical scheme to relieve educated unemployment. On the wages front, six northern states—UP, Rajasthan, Punjab, Haryana, MP and Jammu & Kashmir and two *Union territories*—Delhi and Chandigarh have agreed to fix minimum wages for workers in the industries listed in the "schedule of employment" namely construction of roads, stone breaking, carpet and shawl making, rice, dhal and oil mills, tobacco manufacturing and public *transport and to review* the minimum wages every 3 years. The union labour minister also held the first meeting of the Standing Committee on Unorganised Labour to examine whether unorganised workers can be similarly protected, in which connection state *governments had been consulted on* the Kerala Agricultural Workers Act 1972 as a model. Of the 10 states who replied (out of 22), MP and Maharashtra are against legislation, West Bengal feels each state needs its own legislation, Bihar and HP are not opposed and Punjab wants it. The States are not a *progressive force* and are concerned about administrative problems of the Act. The Standing Committee has established 3 sub-committees on a) the nature and scope of central legislation for agricultural workers, b) problems of organising of rural workers and edu*cation and training of their* leadership, and c) problems of bonded labour. 2 million rural workers had no work, 4.2 million wanted additional work, 48 per cent were indebted to money lenders and only 9 per cent to banks and the average debt per family increased from Rs. 147 in 1964-65 to Rs. 387 in 1974-75 according to the information presented to the committee.

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VI Other Items

DIRECTOR'S SECTION

The Research Scholars' Seminar on Saturday, February 3 was led by Professor T. J. Byres, Department of Economics, School of Oriental and African Studies, University of London and Editor, *Peasant Societies*. Prof. Byres presented a methodological critique of Michael Lipton's book *"Why the Poor remains Poor"*. He pointed out that Lipton's contention widely shared by many *scholars and administrators all* over the world as also in India, that mass poverty is the result of the exploitation of the rural population by the urban elite is factually inaccurate and methodologically untenable. In the poor countries of the world poverty exists both in the rural and urban areas, and while it is true that public policy often tends to have an

urban bias, this cannot be claimed to be the cause of poverty or of the inability to eradicate poverty. Various forms of exploitation can be seen in the rural areas themselves. To suggest therefore that poverty can be removed by diverting resources into the rural areas is not a valid argument.

Research Guides and Research Scholars from Vivekananda College, Loyola College, Madras Christian College and the Institute participated in the seminar.

On the second Saturday in February, the fourth of the half-day seminars was held where Dr. Y. Nayudamma, Distinguished Scientist, Central Leather Research Institute reported on the work being done by a multi-disciplinary team of experts to examine the technical, financial and social feasibility of alternative technologies for the manufacture of leather products. 20 participants consisting of Industrialists, Engineers, Marketing Experts, Scientists and Economists participated in the seminar. Dr. Y. Nayudamma indicated that along with the thinking on alternative technologies it is also important to consider alternative development patterns. The development pattern to be sought after must be one that will develop man's creative ability, his problem solving capacity and his productivity rather than one that merely results in the production of large amounts of goods. Because of the close relationship between development and technology, alternative development necessitates alternative technologies also. Technology is to be differentiated from technique. Technique is a tool, machine, method or skill. Technology on the other hand is a system covering techniques, management, marketing, etc. integrated and orchestrated and dictated by economic, social and cultural values. Dr. Nayudamma suggested the following criterion as the basis of technology and economic system that feature human dignity and welfare: a) Development centred around man; b) To increase the resources, including the human resources; increasing the resourcefulness of man is by itself an increase in the resource. Resourcefulness of man is the best resource; c) To maximise yields and returns for all the resources inputs—Material, Monetary and Human resources; d) To achieve economic growth for distributive justice; e) Improvement in the quality of life of man—to live in harmony with his environment with sense of values of human dignity; f) To generate and develop self-confidence, self-competence and self reliance in the man; g) To provide additional gainful employment; h) Participation of the people; i) The spread effect,; j) No subsidies in the system since they go against the concept of self reliance.

Keeping these factors in mind Dr. Nayudamma examined six different technologies for the production of common leather goods such as wallets. The six models featured by Dr. Nayudamma were the following: Model 1, a traditional cottage industry; Model 2, same as 1, but assisted by grants/loans by Village Industries Commission; 3. Fully mechanised advanced model; 4. Centralised planning and decentralised production by a cluster of artisans; 5. Same as above but done by individual family workers; and 6. Same as above with the difference that the enterprise is a public enterprise.

In the discussion that followed Dr. Nayudamma's presentation, questions pertaining to the technical aspects of the alternative models as well as problems of implementing technically desirable models were brought up. It was pointed out that the major social and political problems pertaining to development could not be solved through a mere technological approach. On the other hand it was conceded that experiments of the kind conducted by Dr. Nayudamma and his team were significant in so far as they identified the options available and also showed the decision makers the technical and broader social implications of choices to be made.

International Economic Relations:

A meeting of Indian economists—those in government, in universities and those serving abroad – was held in January in New Delhi to review and formulate a research programme to aid policy and programmes in India's international economic relations. India's possible positions with regard to the New International Economic Order, trade policies, GATT and UNCTAD negotiating positions, and the issues in connection with the objectives and quantitative and qualitative targets were reviewed. Three sub-committees were set up to elaborate research programmes on industrial policy, trade policy and fiscal issues, for which a somewhat generous grant has been made available to the committee by the Ford Federation.

UGC Review:

A second meeting of the UGC committee to review the impact of UGC development grants to Universities and colleges was held in New Delhi in January. It was agreed that if the effect of UGC grants in terms of the quality of students turned out, the nature and effect of the research undertaken by the professors, the infrastructure that has been built up and the effect in the local community and the villages are to be assessed, the grants during the IV plan and early years of V plan would have to be considered and a representative group of Universities and colleges in the four areas of the country visited. It was agreed that at the next meeting, these committees would be constituted and the reports of the special panel on COSIP, COSHIP, etc would be reviewed.

Family Planning Foundation:

A meeting of social and medical scientists was called by the Family Planning Foundation to consider the proposal for a National population council. After a detailed examination of the various alternatives, it was agreed to propose to the Foundation and the government that a commission of specialists be set up to monitor the progress of the family planning programme and promote its rehabilitation as a major national concern. Also the Foundation was encouraged to set up panels to undertake in-depth studies of various aspects of Family Planning programmes.

Cultural Centre for the Performing Arts:

The Annual meeting of the Cultural Centre for the Performing Arts was held in Madras in early January at which the place of music, drama, literature etc. in the educational and social life of the community was reviewed. It was decided that Centre should acquire permanent buildings and its educational

programmes expanded and strengthened. Music occupies a distinctive place in Tamil life and Indian Culture and it was for voluntary agencies like the Centre to keep alive the great tradition and adapt it to the electronic age into which we have moved.

IAPL & EL:

The 11th Annual conference of the Indian Association for Programmed Learning and Educational Innovation was held in Sardar Patel University, Vallab Vidyanagar, Gujarat. The conference theme, Adult Education, Education Technology and Innovation centred around new educational researches could make their contribution to the National Adult Education Programmes. It was decided on the basis of the conference conclusion that every group would work on producing one or more pieces of programmed learning, a TV format, or a radio script during the year and that these would be reviewed at next year's meeting which will be more in the nature of a workshop.

Anand & Baroda:

The Anand Milk Union Limited (AMUL), situated at Anand, a short distance away from Vallab Vidyanagar was the first effort at organising milk producers co-operatives and helping the farmer or his wife to rear the buffaloes, feed them well and produce daily the milk to the local milk co-operatives in the village. The Union which is a federation of 831 village milk producers unions functions over 1,000 villages among 2,45,000 families and collects, distributes and uses over 8.5 lakh litres of milk a day. It has helped each family to earn an adequate monthly income, to ensure that every village has a school, a health centre and protected water supply. In effect there has been a simultaneous and sensible rise in the standard of living and quality of life of the villages covered by AMUL. Its milk processing and milk products plants has been built with its own resources, mainly with some help from outside. It has helped in creating similar unions in Ahmedabad, Baroda and other places and on the basis of its leadership and example the National Dairy Development Corporation has been set up in Anand to replicate its pattern. The Tamil Nadu Milk Producers Federation to be set up, referred to earlier, owes its origin to the leadership and example of AMUL.

Commonwealth non formal Educational Conference:

A Commonwealth Conference on Non Formal Education for Development was held in New Delhi from January 22 to February 2. It was attended by 150 educators, agricultural, health and community development extension specialists, planners and media specialists from 28 Commonwealth countries. It concentrated its 2 weeks of discussions on non formal education for school dropouts and adult illiterates and came out with a programme directed at motivation of educators, political authorities and rural and urban peoples, the structures needed at the national and local level for the programme, the type of curricula, certification and interaction between the formal and non-formal system, and the needed training of instructors and extension workers and participatory research on which each country's programme should be based. It also

recommended that the developing commonwealth countries should co-operate among themselves using the programmes under way in India, Tanzania, Kenya and Jamaica to learn from one another's successes and errors. The Commonwealth secretariat will follow up this action programme at the Commonwaslth level and the Indian non formal education programme provided a sound background for the national and local efforts which should be made.

IIEP - NSC :

A week's seminar in January was held on the contribution of education to the New International Economic Order sponsored by the International Institute of Educational Planning and the UNESCO Regional Office for Asia in Bangkok at the National Staff College for Educational Planners and Administrators in Delhi. The Seminar was concentrated on the contribution of education to equality, the contribution of education to rural development and the relation between education and employment. The lead papers on these three themes were used to draw up a national and international programme of the educational component for the New International Economic Order and the Third Development Decade of the UN. The major emphasis was the need for a change in values—returning to the system of values of simplicity, equity, justices, harmony with nature and integrity which Gandhiji emphasised.

IAEA :

The Executive Committee of the Indian Adult Education Association met towards the end of January in New Delhi. It reviewed the process of implementation of the programme for the two years 1979 and 1980 established by the Annual Conference and approved the planning of 6 regional workshops, the establishment of a clearing house of literacy documentation and a literacy book writers' workshop. On the basis of the travel and visit to states projects by the Director and reports from member associations monitoring the implementation of NAEP, the committee established 8 points to be presented to the government and the National Advisory Board on Adult Education which was meeting shortly. It also reviewed the function and content of the Journal and coopted 4 members to the committee. It agreed to meet again in April.

National Board of Adult Education :

The third meeting of the National Board of Adult Education met in New Delhi on January 30. It noted that State Boards had been set up in all states and that the programmes for the plan period and the tentative budgets approved for all states for the VI Plan period. Voluntary agencies were fully involved in the execution of the programme in Gujarat and Rajasthan and fairly in Maharashtra and Tamil Nadu. There was need to guard against the programme sliding into a literacy effort which would defeat its objective to help the poor to rise to their liberation and raise their living standards, and for governments to use freely and without reservation voluntary agencies and in fact help create them in areas where they do not exist. One problem that awaits clarification is the extent to which the Rs.200 crores allocated by the Plan to the programme will remain a central or centrally sponsored allocation and the effect of the NDC committee decision to transfer Rs. 2,700 crores from centrally sponsored

projects to the states, as noted earlier. How would this affect the allocation of Rs. 100 crores in the central and Rs. 100 crores in the states sector? The Planning Commission wants the programme to be revised to make it a local rural community effort as part of the revised minimum needs programmes.

Joint Select Committee :

The Joint Select Committee of Parliament on the Viswa Bharathi Amendment Bill met from January 17 to 19 in Calcutta. It heard 15 witnesses from West Bengal, most of whom submitted written comments. The general emphasis by the Bengal witnesses was on the school, the priority for culture and performing arts, languages, and East and West cultural studies and exchanges and Sriniketan and on the position of the Senate and some limitation of the powers given to the Visitor. The plan to visit Shantiniketan had to be postponed at the request of the Vice Chancellor, because of student unrest.

February Development Seminar:

The paper, 'Productivity trends in Tamil Nadu' by Prof. B. Krishna Rao, Professor of Economics, Madras University for the February Seminar together with a summary of the proceedings of the paper at the seminar chaired by Dr. C. T. Kurien appears as the first article.

Second Article:

A paper, 'Non Formal Education for Development,' appears as the second article.

Productivity Trends in Tamil Nadu

By

B. KRISHNA RAO

I

An analysis of the work and waiting, that is of labour and capital, necessary to secure output under varying conditions of the economy and under different perspectives, spatial, and temporal is a crucial but a difficult problem in productivity. Partial productivity can be viewed as a measure of the return for a factor input such as labour, or capital, or land. Total productivity is a measure of the return to all the inputs used in production. Technical changes are closely related to productivity changes and pose problems before national and regional economic structures geared to employment policies and development programmes.

Partial productivity studies are open to a charge that many of the factors responsible for production changes are likely to have been overlooked. Total productivity analysis presents accounting problems and is sometimes difficult to interpret. Prof Boulding cautioned about the fallacies of aggregating the inputs or outputs. Prof. Samuelson forcefully argued that money aggregates (of inputs or of outputs) should not be compared in ratio form in a temporal sense for the value content of the aggregates does not have the same significance or meaning over time.

In productivity analysis, besides the problem of measurement concerning the rates of transformation of the factors of production such as are identified by the economist, there are other problems pertaining to the political, institutional and sociological situations which bear upon the efficiency of the economy. Such problems should not be ignored without remedy. Besides factor productivities, the design of resource allocation mechanisms should also consider the institutional conditions or historical factors operating in the economy. The studies of Adelman and of Moroshima clearly point out to the role played by such factors in production movements.

II

One of the consequences of the plan policies in India has been that a closer relationship between factor markets and the markets for final products has been coming about. However, perversity in the working of the markets or in their structure may yield returns to factors in such a way that the evaluation of the resources used becomes a complicated problem. As Raymond Frost noted, in

backward societies there is an immobility of labour both at the bottom of the society where 'heavy and dirty' work has to be done and at the top. The capital markets moreover are also undeveloped. Dualistic market structures exist and under their influence the highest output per factor units may not become available to the general economy. The backward economy making efforts at development does not, moreover, implement the competitive model but may cling to ideals of equity and controlled economic change.

It is worthy of note that while labour is just one of the many functions discharged by man in the course of socio-economic development, the capital equipment on which the economy relies is exclusively designed for the purpose of production. The equipment of course should be of the kind suited to the society. Along with socio-cultural and structural changes, additional capital formation can help, in the words of Adam Smith, in enriching the economy with more employment opportunities, better crops on land, improved manufactures and flourishing trade.

III

Technology is a result of the inputs of scientific knowledge. It is no longer a fixed datum but is becoming a matter of choice and a policy parameter. The technology available for the under developed areas, as well recognised now, is not to be thought of merely in terms of a transfer from the developed area. When this had been happening, as for instance through the influence of multinationals, the technical bias present in the advanced economic systems was being imparted into the less developed systems. The matters relating to the science and technology policies suited to the conditions of the underdeveloped countries have recently assumed great importance unlike in an older epoch when the type of capital imports revealed as well the type of technology favoured.

Technological promotion suited to the local conditions has been already apparent in Tamil Nadu agriculture. The industrial estates have been helping entrepreneurs with capital equipment and other facilities. Credit policies have recognised priority sectors and encouraged controlled expansion of credit to meet the needs of development in agriculture and industry. However there have been rigidities inherited from the past institutional structures, and the factor markets show dualistic features. Price inflation, and the indebtedness patterns of the rural areas are also to be reckoned within the study of productivity. A reference to all its implications is therefore a complex problem. Technological factors, employment levels, productivity changes and institutional structures have all to be taken into account in formulating resource use programmes for development.

IV

The income generated in an area reflects the performance of its productive agents. For Tamil Nadu the accounts of the domestic product are available for 16 sectors. Factor uses concerned with the employment of labour and capital for each of these sectors are however difficult to assess for each of these sectors owing to a lack of appropriate data. The final estimates of the domestic product are available for 1971-72. The

net domestic product for this year was of the order of Rs. 1,508 crores at 1960-61 prices.

Tamil Nadu has also been making mid-year population estimates. The per capita income in 1971-72 worked out to Rs. 362 at 1960-61 prices. The income was only Rs. 334 earlier in 1960-61 and the increase by 1971-72 thus seems to be far from rapid. The provisional figures for per capita income for 1975-76 marks a decline to Rs. 351 from Rs. 362 noticed in 1971-72. However the estimate of Rs. 351 for Tamil Nadu is a little higher than the all-India per capita income of Rs. 349 for 1975-76.

The slow pace of change in per capita income and the difficulty in its improvement are indicative in a general way that markets, techniques, and factor inputs should be brought under a better scheme of organisation for purposes of development. The growth of population, in recent years, had been much more striking than the growth of agricultural income in Tamil Nadu. In the nineteen-sixties the income due to agriculture indeed revealed very little steady growth. In 1960-61 agricultural income was barely Rs. 564 crores and it rose to Rs. 602 crores by 1971-72 (at 1960-61 prices). The income due to manufacturing (registered) which was Rs. 88 crores in 1960-61 rapidly rose to Rs. 163 crores in 1971-72. The income due to the unregistered sector of manufacturing rose from Rs. 79 crores to Rs. 137 crores during the same period. The contribution of the manufacturing sector on the whole imparted a certain dynamism to the income levels of the state.

In Tamil Nadu the birth rate shows a downward movement. It was of the order of 26.7 per 1,000 of the estimated mid-year population in 1960. Except for 1968 and 1969 when the birth rate stood respectively at 28.1 and 28.7 the decade of the sixties witnessed much lower rates. In 1972 the rate was only 24.4 per thousand. The population size was of the order of 33.3 million in 1960 and 41.6 million in 1971-72.

About 68 per cent of the population is rural in Tamil Nadu. In this state extensive cultivation nearly came to a stop since the close of the second five year plan. Resources in the form of land and electrical energy are critical for the economy of Tamil Nadu. As both crop land and electrical energy supplies are affected by monsoons, droughts affect the economy of Tamil Nadu in a severe manner. Data on the working population of the state and on the net domestic product due to agriculture, manufacturing and other sectors yield interesting conclusions. The data are shown in the appendix. It would seem that the income productivity or the imputed value would be about Rs. 0.63 for a unit of power. A similar estimate can be made for land and labour resources as well. If the land resources were to be tightened up the product would seem to fall by Rs. 986 per hectare. The imputed value of the income productivity per worker was found to be Rs. 1,417 from the data shown, for 1971-72. These figures are plausible and bear cross-checking. The models that can be used for computing imputed values for factor services can be however more complicated (see note 1 in the appendix).

V

It is hardly possible to miss the sweep of the green revolution in Tamil Nadu after the year 1965, by which time considerable volumes of investment were absorbed by the agricultural sector for irrigation development, extension and research. The high yielding strains spread to many crops in Tamil Nadu; these strains have been showing a greatly improved capacity to respond to environmental improvement. The green revolution, otherwise designated as pumpset revolution by the populace, brought in many changes and affected the crop yields which showed high rates of growth particularly for paddy. Besides paddy, sugarcane and cotton also showed considerable advance in their yields. As between 1956-76, paddy yields revealed a growth rate of 3.94 per cent per annum whereas the growth rates for sugarcane and cotton were of the order of 1.76 per cent and 1.83 per cent per annum during the period. As from 1960, if a shorter period were to be chosen for computing the growth rates, much better performance was noticeable for these crops than for the rest. However taking into account the change in agricultural technology between 1965-72, the increment in income due to agriculture, reaching a magnitude of Rs. 112 crores looks indeed, significant.

The decomposition of production of growth, utilising the decomposition model of Vaidyanathan and Minhas, brings out interesting details of the agricultural scene. The results obtained from the model for three crops, paddy, groundnut and cotton, are shown in the following table:

TABLE : 1

DECOMPOSITION OF GROWTH RATES FOR PADDY, GROUNDNUT AND COTTON

Crop	Period	Growth rate	Area cropped	Effects Yields	due Crop patterns	to Inter action
Paddy	1956-61	-1.04	2.77	-	-3.63	-0.18
	1961-66	0.49	-0.13	0.15	0.47	—
	1966-74	4.97	0.72	4.01	-0.02	0.26
Groundnut	1956-61	1.87	0.67	0.08	1.06	0.06
	1961-66	-5.62	-0.14	-3.50	—	0.02
	1966-74	4.99	0.19	2.50	0.40	0.33

Contd.

	1956-61	1.42	0.63	2.09	-1.15	-0.15
Cotton	1961-66	-0.46	-0.14	0.06	-0.38	—
	1966-74	2.06	0.79	1.28	-0.08	0.07

The data of the *Agricultural Census* 1971 *show that* over three quarters of paddy-growers are small farmers in Tamil Nadu and as such an environment in which high productivity becomes possible has to be ensured to them.

VI

The data of the *Annual Survey* of Industries, and the Census of Manufactures furnish a basis for a study of industrial productivity in Tamil Nadu. The level of employment in the manufacturing sector has been rising in Tamil Nadu along with the income generated from that sector. The volume of productive capital available to the various undertakings engaged in this sector, the wages disbursed by them, and the value added per factory are a few factors that are closely associated with the employment levels in the factories. They explain 61 per cent of the variance noticeable in numbers of workers employed in each factory. It is worthy of note that the rise in wages was not found associated with the diminution of the employment levels. It would be worthwhile to test this conclusion by taking *different* time-periods as well.

The amount of productive capital and the numbers of the working population in the manufacturing sector explain 30 per cent of the output variance. This result secured from a Cobb-Douglas function fitted to the ASI data and an equation for the employment levels which were alluded to earlier are shown in the appendix (note 2).

VII

The *small industry sector* and the tiny sector that embraces the cottage industries and other occupations of a non *agricultural character in the rural areas* offer special difficulties in the analysis of productive relations. These difficulties cover both the availability of appropriate data and the appropriate forms of analysis. The Census of Small Industries 1972 furnishes, however, useful data on the production levels, the number of workers employed and the amounts of productive capital in the various districts of Tamil Nadu.

In Tamil Nadu, the areas of Coimbatore, Madras, Chingleput, and North Arcot are particularly prominent for small industry production. In the matter of employment, Ramnad with about 32 thousand workers engaged in small industry had been nearly as prominent as Coimbatore where 33 thousand were employed in this sector. Other districts had been very much behind these two areas in the matter of the labour employed by the small industry under-

takings. Chingleput however occupied the top rank both in regard to the size of the investment made and the amount of capital available per worker. The Dharmapuri district which is about the most backward in the State reported only 2 thousand workers, producing about Re. 1 crore of output with productive assets valued at Re. 0.9 crores. The volume of small industry production was found to be correlated with productive assets to the extent of 0.91 whereas with the numbers of the workers the correlation coefficient was of the order of 0.84 only. The role played by labour and the productive assets, in terms af marginal productivity coefficients, are shown in the appendix (note 3).

VIII

The likely trends for productivity gains in the future appear to be encouraging. The potential for improvements in productivity should be identified at the plant level and the plans should devise suitable schemes for resource use. Science and technology policies would form an important determinant of the levels of employment and of capital accumulation as well. For productivity growth the institutional and social situation must also be favourable. Whereas an assessment of productivities is essential for well designed supply management, changes in income levels are of key significance in the management of demand. Institutional features and policy norms have a great deal to do with income distribution which however follows the patterns set by productivity in a truly socialist society.

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APPENDIX

Note: 1

Net domestic product at factor cost (Rs. 10^9) at 1960-61 prices : Sec. IV

PRODUCT BY SECTORS (1971-72)

TABLE : 1

Agriculture	$X_1 = 0.3992\,(X_1 + X_2 + X_3)$
Manufacturing	$X_2 = 0.1918\,(X_1 + X_2 + X_3)$
All others	$X_3 = 0.4019\,(X_1 + X_2 + X_3)$

TABLE : 2

RESOURCE AND PRODUCT RATIOS BY SECTORS (1960-61 prices)

Type of resource	Period	Resource availability b	A_1	A_2	A_3
1. a. Crop land	1971-72	7641 (000)			
b. Land for non agricultural uses	1971-72	1509 (000)			
		9150 (000)	12.6927	1.6665	1.6665
2. Power supply	1971-72	5296×10^6	2.1079	8.8200	2.2788
3. Working population	1971 census	14741 (000)	15.1117	4.3400	7.1650
Resource equation	1971-72	$A_1 X_1 + A_2 X_2 + A_3 X_3 = (b_1\ b_2\ b_3)^T$			
Objective (Rs. crores)		Max $X_1 + X_2 + X_3$			

TABLE : 3

SOLUTION

	X_1	X_2	X_3	Imputed value (Rs.) of services from Land	Power	Workers
1971-72 (Estimates)	600	297	619	—986	.633	1417
1971-72 (Actual)	602	299	607	1642*	2.85*	1022*

*ratios of services to total product

NOTE : 2

MANUFACTURING : Sec VI

A) ASI data (1974-75) on numbers of workers employed (L), on productive capital (K) and on output (O) excluding items 31,32,33,41, 42,95-97 referring to rubber, plastic, petroleum and coal products, manufacture of chemicals and chemical products, non-metallic mineral products, manufacture of transport equipment, etc.

$$Q = 0.32 \; L^{0.9049\S} \; K^{0.1871\S}$$

$$R^2 = 0.3049$$

§ significant above 10% level

B) ASI data (1974-75) on value added per factory (V) and wages disbursed (W) condsidered for the same industrial groups as above lead to:

$$L = 35.6 \; W \; 0.2839\S\S \; K \; 0.0336\S\S\S \; V \; 0.1683\S\S\S$$

$$R^2 = 0.6139\S\S$$

§§ significant at 5% level

§§§ significant at very high levels only

NOTE : 3

SMALL INDUSTRY : Section VII

Data derived from the census of Small Scale industries 1972—District wise Break-up with Nilgiris excluded—lead to the following:

Q = Production (Rs. crores)

L = Employment : Number of workers (000's)

K = Productive assets (Rs. crores)

$$Q = 0.4534\S \; L + 5.30 \; ; \; r = 0.84^{\S}$$

$$Q = 0.5994\S \; K - 0.61 \; ; \; r = 0.91^{\S}$$

$$L = 1.0426\S \; K - 3.34 \; ; \; r = 0.85^{\S}$$

§ significant at 5% level.

Summary of Proceedings

The second seminar for the year was conducted at the Institute premises on the 22nd February. A paper on the "Productivity Trends in Tamil Nadu" was presented by Dr. B. Krishna Rao.

The author pointed out that the study was a preliminary one and only attempted to indicate the lines on which future investigations could follow.

While several theories have been put forth for the measurement of productivity, empirical analysis was equally essential. The author emphasised the importance of the functioning of factor markets. It was shown that the factor markets in the economy were performing in a more organised manner than say, in the thirties. It was stressed that perversities in their working distorted productivity and made its evaluation difficult.

In the study, productivity was measured mainly in terms of the income generated by an input. The economy was divided into agriculture, manufacturing and 'other' sectors and the inputs selected were land, energy and work force. Of these, crop land and energy were considered 'crtical'. The tool used for analysis was shadow pricing or the system of imputed values.

In the agricultural sector the growth rates of paddy, groundnut and cotton were studied and their individual relationship with the following factors: area cropped, yield and crop pattern, examined. The interaction was found to be particularly high for paddy and groundnut. The author pointed out that these two crops showed promising trends in productivity. The author wanted appreciation of the fact that analysis was rendered difficult by the three factors mentioned above being highly interrelated. It was further noted that a short period analysis yielded higher growth rates and vice versa. Another problem faced was the constantly changing crop patterns, yields and area devoted to different crops. The model used here was an aggregative model.

In the manufacturing sector, the Cobb–Douglas production function was utilised. The author submitted that though the model did not clearly reflect the trend, it had been used in the past and continued to be relied upon. Similarly it was possible to arrive at some coefficients for the 'tiny' sector also.

Finally, the author laid stress on the institutional factors which had an important bearing on productivity. He stated that some of the limitations faced by the study were the application of static concepts to a dynamic problem and the use of a model involving unrealistic assumptions.

In the ensuing discussion, it was pointed out that in the agricultural sector,

the analysis also ought to be extended to different farm sizes. It was stated that recent studies conducted in some districts in the State revealed that the size-productivity relationship was not unambiguous. Output per unit of land did not show much variation with size in Thanjavur whereas in Coimbatore the performance of smaller units was seen to be better per unit of land and per unit of capital. But the return per member of family was higher in the larger farms. Besides, the *intensity* of labour utilisation was argued to be a crucial factor.

The seminar was chaired by Prof. C. T. Kurien.

Non Formal Education for Development*

By

MALCOLM S. ADISESHIAH

Welcome :

First a word of warm welcome to all members of the Commonwealth attending this conference, who share a common set of problems and who are here to learn from one another. I believe that it is appropriate that we meet here in India because, speaking both from the vantage point of my age and experience and from that of my previous incarnation as a Unescan, I should tell you that I find that this my country, India, has every one of the problems of Development and Non Formal Education that each of you has in his or her own country, and on top of all that has some further problems uniquely her own. We could not have chosen a more comprehensive sampling and representative situation for our rendezvous than this country. Also at this time, our climate here is kindly and I hope our material arrangements are equally comfortable. I welcome also representatives of the various organisations and agencies present here and look forward to their help and support in our work and deliberations.

Theme :

Non Formal Education For Development—that is the theme of our conference.

Development :

I will turn our theme around and begin with Development. We are 900 million men, women and children in the Common wealth countries, of whom 100 millions live in rich countries and 800 millions in poor countries. Development means a New International Order which will narrow the gap between the living levels of the two groups of countries. Of the 800 millions of us living in the less developed Commonwealth countries, 500 millions are living in poverty and 300 millions living in relative affluence. Development means that this state of inequality, which is the root cause of the poverty of the majority, must be ended and the poor allowed to develop an adequate standard of living. In these our less developed Commonwealth countries, 60 millions are unemployed, underemploy-

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* Presidential Address, Commonwealth Specialist Conference, New Delhi, January 22 – February 2, 1979.

ed or thinly employed, and on top there are 15 million entering the labour force every year, looking for work. To them Development means gainful employment, which means in turn employment at a fair living wage. In this year of grace, 1979, that we have solemnly proclaimed as the International Year of the Child, 150 millions of our children below the age of 8, by which time modern bio-genetic research tells us that 80 per cent of the intelligence base of every human being is formed, are living in conditions of undernourishment and therefore of malnutrition, which makes impossible for them the development of minimum intelligence growth. Development means making available to all these children, the nursing mothers and pregnant women adequate food so that the future of the Commonwealth citizenship will ensure their common wealth. In our less developed Commonwealth countries 650 millions live in the politically neglected, economically exploited and socially and culturally (in terms of infrastructure) starved rural countryside, while 150 millions live in relatively well endowed urban enclaves. Development means some equalisation of living conditions as between our villages and cities.

Non Formal Education:

Non Formal Education, like some other negativistic terms, which all of us present at this conference have heard about, and some of us have lived with and practised, such as non cooperation, non violence, anti-apartheid, protestant, is a wide ranging, complex and powerful concept.

Wide Ranging:

Non Formal Education is a wide ranging concept because it comprehends all learning outside of the formal system, and has no parameters of time and space. It can be classified by age group: the non formal learning organised for pre school, unschooled and underschooled children in the age group 1-15, and that organised for youth and adults, unschooled, underschooled, or needing new additional skills, in the age group 15-60. Non formal learning can also be classified by the learning content involved, into these organised activities where the major emphasis is on general education, and those where the content is mainly vocational. The institutions and agencies involved in non formal education and training, by the order of the volume of activities undertaken, are federal, state, local and para government/departments and agencies bearing various Development labels such as agriculture, health, labour and employment, information and broadcasting, rural development, social welfare, industry, education etc., the political parties and their various cadres and organisations for youth, women, labour etc. universities and colleges, banks and public sector agencies, the private corporate sector firms, trade unions and a host of voluntary organisations. Non formal learning thus reaches out to pre school education and training programmes for school and college dropouts, the unemployed and underemployed, agricultural, farm, animal husbandry, fishery, forestry workers, extension agents, health workers, family planning personnel, village level workers, illiterate adults and adult education instructors and supervisors, management personnel at various levels, factory workers, workers in

the unorganised sectors, education of the physically and mentally handicapped and remedial, recurrent and updating courses, including those in universities and national science laboratories for scientists, engineers, technicians and university alumni.

This is certainly a wide ranging canvass, which we cannot cover in a fortnight of work. And so we have in effect restricted ourselves very largely to education and training of school dropouts and education and training of adult illiterates. And even within these limits, there are further limits which our documents reveal—we have a lot of the latter-adult literacy and little of the former-Non Formal Education of the school dropouts. We agreed to these parameters at the preparatory phase of our conference. There was a very good pragmatic reason for this self limitation-and that is that this is the immediate short term Non Formal Education pressure that all of us in the developing world face. I have a feeling, however, that one other reason for this restriction is that as educators we are uneasy when dealing with the educational mandate that Development, as I have earlier described it, imposes on us. It is so easy and tempting to escape from the cruel realities of education against inequalities and injustices that our people suffer from to making them learn the 3 Rs. I recall just a couple of months ago, at the closing session of the Annual Conference of the Indian Adult Education Association, the valedictorian, who was one of our leading Agricultural scientists listening with increasing puzzlement to the final reports of the 6 commissions of the conference, and then leaning over and asking me agitatedly "But I thought that I was asked over to listen and share my thoughts on Adult Education—how education can organise our farmers to formulate their projects in order to increase their productivity and incomes—why then is there this exclusive emphasis on Adult Literacy?". I calmed him down, explained the "deformation professional" that we adult educators suffer from. I am not sure that we will entirely escape that deformation at this conference. In any case we do not have an adequate number of development personnel with us. We all here belong to the noble or brahminical caste of "educators". At least, we can be conscious and aware of the fact that we are dealing with only a part of the wide canvass that Non Formal Education is and to that extent make sure to continue and fill out what can only be a partial beginning here.

Complex:

Non Formal Education is a complex concept, and in this it is like Development. It is complex in its learning content which has to be improvised for each group of clients: it is complex in the multiplicity and multi media of learning that it uses, of which the teacher and the book is only one and increasingly a marginal one: it is complex in that its end products cannot be measured by pieces of paper called certificates and diplomas, but by such simple but tough criteria as income generation for the 500 millions living below the poverty line, employment creation for the 60 million unemployed, underemployed and thinly employed, provision of protective food for the undernourished and malnutritioned 150 million children in our Commonwealth countries. It is a part of the total education system and in that sense we must delve into the whys, hows and of the interaction and harmonization of

the various components of the education system—the formal, informal and non formal. But I believe that even more important and an even greater imperative is to conceive Non Formal Education as *a part of the Development system*. It may be here that my bias as an economist is showing. For it is this indelible link of Non Formal Education to Development, this involvement of Non Formal Education in Development, that has been its pole of attraction to me and many non pedagogs like me.

Powerful:

Non Formal Education is a powerful concept. Its power stems from its being like all education the fountain source of knowledge which is power. But even more Non Formal education feeds back into our societies a rather grim and explosive power process. And that is, Non Formal Education involves people—the poor, the discriminated and down trodden majority—organising themselves to end the state of injustice in which they have been forced to live. We can call this dialogue and action, we can call it conscientization, we can call it mobilisation. It is the power of Non Formal Education, the power which it releases, so that the problems of interaction and harmonization between the various forms of education, the danger of Non Formal Education becoming second class education for second class people, (somewhat like UNESCO's 1966 World Survey of Education characterisation of primary education in the developed countries: "primary education could be planned and its wide extension made possible by 19th century prosperity, but only just; it was too often a cheap and nasty education for the sons of the labouring poor"), will be *solved and disolved in the structural changes it will bring about*. Else it is not Non Formal Education. Non Formal Education is people's power, the power to change our society to make it move towards the paths of justice, tolerance, understanding and charity and all its uncomfortable consequences for us, and all the rest like us, of the *status quo*.

Our Task:

I end with reminding ourselves of the aims of this conference. We are met together:

(a) To assist member states to examine the contribution of Non Formal Education to Development in the last five years and to identify the problems which at present impede it;

(b) To assist in the development and improvement of existing programmes and in the planning and implementation of new programmes, taking advantage of regional and Commonwealth cooperation.

Bearing in mind the wise words of the inaugurator and the larger canvass that I have tried to trace, I have no doubt that the practical double aims of the conference— which is for us to learn from each other, and for us to learn to serve our deprived people whom we represent a little better—will be achieved. I hope it can be. I know it must be.

Published as required under Section 19D (b) of the P. R. B. Act read with Rule 8 of the Registration of Newspapers (Central) Rules, 1956

MADRAS DEVELOPMENT SEMINAR SERIES
FORM IV

1. *Place of publication*	:	Madras
2. *Periodicity of its Publication*	:	Monthly
3. *Printer's Name*	:	Mr. Shafee Mohammed Saied
Whether citizen of India?	:	Yes
Address	:	Aslami Printers, 25, (Old No. 3-B) Arunachalapuram, Adyar, Madras-600 020.
4. *Publisher's Name*	:	Dr. C. T. Kurien
Whether citizen of India?	:	Yes
Address	:	Director, Madras Institute of Development Studies, 79, Second Main Road, Gandhinagar, Adyar, Madras-600 020.
5. *Editor's Name*	:	Dr. Malcolm S. Adiseshiah
Whether citizen of India?	:	Yes
Address	:	Madras Institute of Development Studies, 79, Second Main Road, Gandhinagar, Adyar, Madras-600 020.
6. *Names and addresses of individuals who own the newspapers and partners or share holders holding more than one per cent of the total capital*	:	Madras Institute of Development Studies 79, Second Main Road, Ganhinagar, Adyar, Madras-600 020.

I, Dr. C. T. Kurien, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Date: 20th February, 1979

Sd/-
C. T. KURIEN
(Signature of the Publisher)